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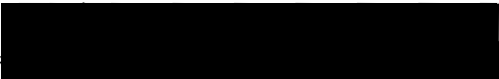
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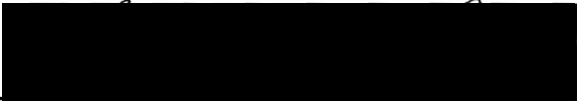
AN ABSTRACT OF THE THESIS OF Kimiko Okada King for
the Master of Arts in TESOL presented February 5, 1993.


Title: Cognitive Development of Bilingual Korean-Americans
in an Oregon School District

APPROVED BY THE MEMBERS OF THE THESIS COMMITTEE:


Marjorie Terdal, Chair


Kimberley Brown


Bernard Ross


Ma-Ji Rhee

This research examined whether bilingualism would
accelerate or hinder the cognitive as well as academic
development of the Korean American individuals in an Oregon
school district by analyzing the standardized test scores at
grades 3, 5, 7, and 9. Eleven monolingual and 27 bilingual

students released the Survey of Basic Skills (SBS) as well as Cognitive Abilities Test (CogAT) scores for this study.

The analyses of the test scores revealed that the Korean-American students in this school district were performing at a much higher level against the national norm (the 50th percentile), or the school district norm (the 75th percentile).

The bilingual Korean-American students made far greater progress both cognitively and academically from grades 3 to 9 (CogAT: 76.0 %ILE - 87.0 %ILE, SBS Composite: 77.0 %ILE - 87.0 %ILE) than their monolingual counterparts who hovered around the 85th percentile against the national norm. It was learned that the bilingual Korean-Americans were both cognitively and academically as developed as their monolingual counterparts by the time they were in 5th grade.

Telephone interviews conducted with 46 bilingual and 23 monolingual Korean-American high school students as well as 30 written questionnaires returned by their parents revealed that the Korean-American students in this particular school district could not become naturally bilingual, but that a commitment both by the students and their parents was necessary to maintain their ethnic language. The parents of the bilingual students were making more efforts to pass on the Korean language to their offspring than the parents of monolingual students.

The Korean-American families were very much integrated into the social mainstream, and were trying to achieve educational as well as economic successes on American's terms while maintaining their ethnic identity.

**COGNITIVE DEVELOPMENT OF BILINGUAL
KOREAN-AMERICANS IN AN OREGON SCHOOL DISTRICT**

**BY
KIMI KO OKADA KING**

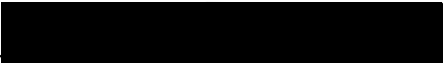
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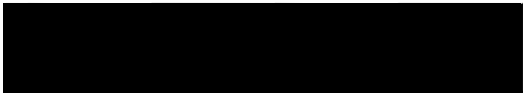
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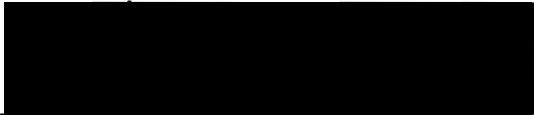
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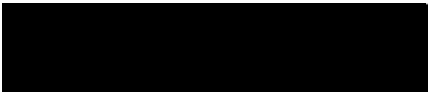
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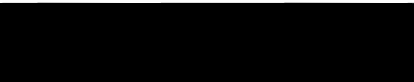

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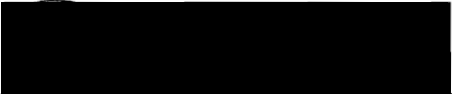

Kimberley Brown


Bernard Ross


Ma-Ji Rhee

APPROVED:


James R. Nattinger, Chair, Department of Applied Linguistics


Roy W. Koch, Vice Provost for Graduate Studies and Research

For my husband and children,

Jim, Jason and Caroline

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First of all, I would like to thank the Korean-American students and their families who took the time to answer my questions, and allowed me to conduct this research project. Without their cooperation, this study could not have been completed.

I would also like to acknowledge my husband, Jim, and children, Jason and Caroline, for their encouragement and support. Thank you for putting up with me when I was not at my best.

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CHAPTER I

INTRODUCTION

What are the implications of growing up bilingually in the cultural context of the United States especially if an individual is Asian-American? How do Asian-Americans assess their self-concept in the U.S. cultural context? Are there any particular tendencies in academic as well as cognitive development among bilingual Asian-American individuals? Numerous studies have been conducted on English-Spanish bilinguals in the United States as well as English-French bilinguals in Canada. Many socio-linguistic researchers seem to claim generalizability of their findings on bilingualism and biculturalism even though the vast majority of such studies are based on two European languages. It may be necessary to give separate consideration to the bilingualism that involves an Asian and a European language.

The purpose of this research is to provide insight into the bilingualism involving an Asian and a European language. By examining language issues of Korean-American youths in an Oregon school district, it is hoped that this investigation will find some tendencies in the academic as well as cognitive development of Korean-American bilingual individuals.

This study will examine the results of interviews conducted with Korean-American high school students in an Oregon school district and questionnaires mailed to their parents. In addition, standardized test scores of selected bilingual Korean-American students and their monolingual counterparts are compared to explore similarities and differences in their academic as well as cognitive developmental patterns. Interviews and questionnaires are intended to investigate such intervening variables as socio-economic status, level of parental education, language interaction at home, and motivational factors.

Asian-American parents are often faced with the dilemma of whether they should continue using their first language (L1) or not when their offspring start first grade. Some parents choose to discontinue the use of L1, thinking this would enhance their children's scholastic achievement in the mainstream monolingual English school. As scholarship has been a highly regarded accomplishment in Asian cultures since the time of Confucius, Asian American parents sometimes sacrifice their ethnic culture to enhance their children's academic achievement in the cultural context of the United States.

In spite of the fact that the current literature suggests certain advantages of bilingualism over monolingualism, I have often heard how some Asian-European language bilingual children make slow progress in their two

languages during the first few years of formal schooling. Parents of Asian-American bilingual children also report that such children refuse to speak one of the languages for six months or so at one time or another.

This study is intended to discover whether or not bilingualism involving Korean and English hinders the academic development of such children at the lower grades. If Korean-American parents can be reassured that their bilingual children would eventually achieve scholastically as well as or better than their monolingual counterparts, more parents might try to raise their children bilingually.

Prior to discussing the research hypotheses and method, the term, "bilingualism" needs to be defined. The popular notion of a bilingual individual is one who speaks two languages fluently. The importance of fluency has been emphasized in the definitions given by many scholars. For example, Thiery (1978) says, "A true bilingual is someone who is taken to be one of themselves by the member of two different linguistic communities, at roughly the same social and cultural level" (p. 146). However, Thiery's definition would exclude such an individual as former Secretary of State, Henry Kissinger, who is obviously very articulate but has a rather strong German accent in his English.

Skutnabb-Kangas (1981) explains that there are numerous ways to define bilingualism depending on what researchers are trying to find out about it. There is not a single correct

definition of bilingualism applicable for all cases of research, but rather researchers tend to choose the type of definition that serves them best. She implies that linguists tend to define bilingualism based on linguistic competence.

Most bilinguals use their languages for different purposes and different situations. Bilingual individuals acquire communicative competence to the degree required by the environment. Unless they are professional interpreters or translators, it is unlikely bilingual individuals are required to develop communicatively competent skills equally in more than one language.

For example, Korean-American children's use of Korean at home and English at school requires two different sets of lexical items. Some bilinguals may be able to write in only one of the languages they speak. It is quite common to find an individual who is fluent but not literate in such an Asian language as Korean, which normally employs more than 2,000 Chinese characters and many more combinations of these characters.

It seems reasonable, then, to define bilingual individuals as those who can function well in two different linguistic contexts but who do not necessarily possess an equal level of linguistic skills in the two languages they regularly use. This view is similar to that of Grosjean (1982), who defines bilingualism as regular use of two languages.

Although contradictory results have been obtained from the studies conducted on the cognitive development of bilingual children over many years, the recent studies on English-French biliterate education in Canada, and English-Spanish education in the United States suggest that there are some advantages in growing up bilingually.

Peal and Lambert (1962) found that English-French 10-year-olds in Canada demonstrated more advanced verbal as well as non-verbal skills than their monolingual counterparts. Other scholars support the finding of superior performance by bilinguals (Bain, 1977; Ben-Zeev, 1977; Cummins, 1979; Hakuta, 1990; Landry, 1974). They report that bilinguals demonstrate higher abilities in the area of general intellectual development, divergent thinking, a tendency to observe and analyze various aspects of language, and sensitivity to feedback cues and to non-verbal communication. According to Skutnabb-Kangas (1981), high level bilinguals definitely display superior cognitive development to monolinguals while bilingualism in general may have positive or negative consequences for cognitive development.

However, Niyekawa (1983) warns that bilingualism and biliteracy involving a European language and an Asian language require separate consideration. European languages are structurally as well as orthographically similar to one another while differences between European and Asian languages are numerous. Niyekawa's view that separate

consideration is necessary for Asian-European language bilingualism is shared by other scholars (Chu-Chang, 1983; Hakuta, 1979; Hsia, 1983; Inn, 1983; Tzeng, 1983)

It is the intent of this study to see if the claim that bilingual individuals show superior cognitive development made by the aforementioned scholars is valid.

RESEARCH QUESTIONS

Who are the Korean-American students and their families in the Oregon school district? What are the differences and similarities between the bilingual and monolingual Korean-Americans? The following sub-questions will be addressed.

1. Are the Korean-American students in an Oregon school district U. S. citizens? If immigrants, when did they move to the United States?
2. What percentage of the Korean-American high school students are bilingual in Korean and English?
3. What motivates the Korean-American students to become either bilingual or monolingual?
4. Which language is spoken in a Korean-American family?
5. What efforts are made by the Korean-American students and their families to maintain bilingualism?

6. What is the parental educational background of a Korean-American student?
7. What are the parents' occupations of the Korean-American students?

RESEARCH HYPOTHESES

- 1.A. The bilingual Korean-American individuals will be verbally less developed than the monolingual English speaking Korean-Americans (hereafter, referred to as "their monolingual counterparts") at grade 3, as measured by the reading portion of the Survey of Basic Skills (SBS).
- B. The bilingual Korean-American individuals will be mathematically as developed as their monolingual counterparts at grade 3, as measured by the mathematical portion of the SBS.
- C. The bilingual Korean-American individuals will be academically less developed than their monolingual counterparts at grade 3, as measured by the composite portion of the SBS.
- D. The bilingual Korean-American individuals will be cognitively less developed than their monolingual counterparts at grade 3, as measured by the Cognitive Abilities Test (CogAT).

- 2.A. The bilingual Korean-American individuals will be verbally less developed than their monolingual counterparts at grade 5, as measured by the reading portion of the SBS.
- B. The bilingual Korean-American individuals will be mathematically as developed as their monolingual counterparts at grade 5, as measured by the mathematical portion of the SBS.
- 3.A. The bilingual Korean-American individuals will be verbally less developed than their monolingual counterparts at grade 7, as measured by the reading portion of the SBS.
- B. The bilingual Korean-American individuals will be mathematically as developed as their monolingual counterparts at grade 7, as measured by the mathematical portion of the SBS.
- 4.A. The bilingual Korean-American individuals will be verbally as developed as their monolingual counterparts at grade 9, as measured by the reading portion of the SBS.
- B. The bilingual Korean-American individuals will be mathematically as developed as their monolingual counterparts at grade 9, as measured by the mathematical portion of the SBS.

- C. The bilingual Korean-American individuals will be academically as developed as their monolingual counterparts at grade 9, as measured by the composite portion of the SBS.
 - D. The bilingual Korean-American individuals will be cognitively as developed as their monolingual counterparts at grade 9, as measured by the CogAT.
- 5. There will be a greater increase in the cognitive development from grade 3 to grade 9 for the bilingual Korean-American individuals compared with their monolingual counterparts, as measured by the CogAT.
 - 6. There will be a greater increase in the academic development from grade 3 to grade 9 for the bilingual Korean-American individuals compared with their monolingual counterparts, as measured by the composite portion of the SBS.

CHAPTER II

REVIEW OF THE LITERATURE

COGNITIVE DEVELOPMENT OF THE BILINGUALS

Bilingualism has fascinated socio-linguistic researchers for many years. Earlier studies (prior to 1960) on bilingualism and mental development indicate that multilingualism is an obstacle in the way of verbal development. It was believed that bilingualism in itself might cause cognitive confusion in the child. Bilingual children were considered cognitively less developed than their monolingual counterparts because they did poorly in school (Arsenian, 1937; Hirsch, 1926; Mead, 1927; Rigg, 1928; Sear, 1922).

However, Rees (1983) argues that these earlier studies were methodologically incorrect and had some fundamental errors in their research designs. He pointed out, for example, in many of the situations where research had taken place, bilinguals occupied an inferior socio-economic and educational position as minority groups within a dominant monolingual society. Many intervening variables were involved and not controlled in the earlier studies.

More recent studies on English-French biliterate education in Canada, and English-Spanish education in the

United States suggest that there might be some advantages in growing up bilingually. For example, Peal and Lambert (1962) found that English-French 10 year olds in Canada demonstrated more advanced verbal as well as non-verbal skills than their monolingual counterparts. The skills tested include mental reorganization such as the rearrangement of pictures or the abstraction of relations between symbols. Peal and Lambert's study is considered one of the first well controlled research projects where bilinguals showed more advanced cognitive development than their monolingual counterparts (Lessow-Hurley, 1990).

Other studies support the Peal and Lambert finding of superior performance in both verbal and non-verbal tasks by bilinguals (Ben-Zeev, 1977; Cummins, 1976; Cummins, 1979). Cummins (1976), for example, used a task requiring evaluation of the logic underlying language in Irish-English bilingual children, and found them to be better judges of the logic than their monolingual counterparts.

Cummins (1976) states that bilinguals demonstrate higher abilities in the areas of general intellectual development, divergent thinking, a tendency to observe and analyze various aspects of language, and sensitivity to feedback cues and to non-verbal communication. This argument of the superior cognitive performance by bilinguals is supported by other studies (Bain, 1975; Ben-Zeev, 1977; Landry, 1974). Even in the earlier studies, which suggest the mental inferiority of

bilingual children, certain advantages of bilingualism are detected.

For example, in 1925, Columbia University conducted a study of the educational system in Puerto Rico where English was the major medium of instruction although Spanish was the children's mother tongue. Extensive achievement and intelligence tests were administered to 69,000 bilingual Puerto Rican children both in English and Spanish.

The Columbia University researchers found that the Puerto Rican children's achievement through Spanish was superior to that of mainland American children, who were using their own mother tongue, English, while the Puerto Ricans' achievement through English showed them to be much less developed (cited in Andersson, 1978). The results of the Columbia research seem significant, considering the Puerto Rican children came from a lower socio-economic group than the mainland American children.

Although the results have been contradictory, the current literature seems to support superior performance especially in metalinguistic ability of bilingual individuals. Some scholars believe that bilingualism can lead to some benefits for children of all language backgrounds (Ben-Zeev, 1977; Cummins, 1976; Cummins, 1979; Hakuta, 1986a; Hakuta, 1986b; Hakuta, 1990; Saville & Troike, 1971). Skutnabb-Kangas (1981), whose studies are largely based on bilingualism between the Swedish and Finnish

language, states that high-level bilinguals definitely display superior cognitive abilities to monolinguals while bilingualism in general may have positive or negative consequences for cognitive development, or may have no consequences at all.

ASIAN PERSPECTIVES ON BILINGUALISM

In spite of the fact that the current literature suggests cognitive advantages for the bilingual individuals of all language backgrounds, some scholars disagree with such generalization based on the studies involving mostly European languages. Niyekawa (1983) warns that bilingualism and biliteracy involving a European language and an Asian language require separate consideration. European languages are structurally as well as orthographically similar to one another while differences between European and Asian languages are numerous.

Will it be reasonable, for example, to conclude that Korean-English bilingual individuals are cognitively more developed than their monolingual counterparts based on the results provided by the studies on English-French, or English-Spanish bilinguals? Is it justifiable to assume Asian-American youths are better observers and analysts of various linguistic aspects than their monolingual counterparts based on the studies of Hispanic-American youths?

Niyekawa's view that separate consideration is necessary for Asian-European language bilingualism is shared by other scholars (Brisk, 1976; Chu-Chang, 1983; Hakuta, 1979; Hsia, 1983; Inn, 1983; Tzeng, 1983). For the purpose of this research paper, the literature dealing with the linguistic issues that involve bilingualism among Far Eastern- (namely Chinese-, Japanese-, and Korean-) Americans will be reviewed. Hereafter, the term Asian-American will refer to Chinese-, Japanese-, and Korean-American.

Li (1983) outlines some of the distinct characteristics of the Asian languages. For example, to become bilingual in Japanese and English, an individual must learn two completely different sets of structures. The major differences between Japanese and English grammar include word order, subject verb agreement, article use, noun deletion, and the use of honorific and humble forms.

In Japanese, there is no difference between singular and plural forms of nouns; consequently, no grammatical agreement is necessary between nouns and verbs. Comparable articles (e.g. "a" and "the") do not exist, and often Japanese omits subject or object nouns in a sentence. The honorific and humble structure built into the Japanese language expresses the hierarchical relationship between the speakers.

Japanese and Korean share many grammatical features including 1) Verb Final, 2) Post-Positional, 3) A Case System, 4) Position of Noun Complements 5) Complex Verb

Morphology, 6) Position of Question Words, 7) Placement of Modifiers Before the Modified, 8) Zero-Pronoun, and 9) Sentence-Final Particles (Li, 1983). Korean grammar in detail is cited in Lee (1989). Both Japanese and Korean seem to belong to the Altaic language family although this is still a controversial issue.

As far as the articulation is concerned, the Japanese speech mechanism is much simpler than that of English. For example, there is no distinction between "B" and "V", or "L" and "R". It is very difficult for native speakers of Japanese to distinguish the phonetic difference between "B" and "V", or "L" and "R". If not properly instructed, the native speakers of Japanese would articulate "Grammar" and "Glamor" in exactly the same manner as well as "Base" and "Vase". Miyakawa et al. (1975) examined whether the native speakers of Japanese could perceive the "R"- "L" distinction categorically, and found them to be incapable of the distinction.

Not only do Japanese speakers fail to recognize some English sounds, but also there have been studies indicating their unique cerebral dominance patterns. Tsunoda's studies on cerebral dominance patterns over the past two decades have found some major differences between the native speakers of Japanese and those of English. His study in 1985, for example, finds that the Japanese display the left hemisphere dominance for steady vowel sounds, the sound of a cricket,

and for the sound of "shakuhachi", or a Japanese bamboo flute while English speakers display right hemisphere dominance for the same sounds. Further, Tsunoda's research reveals these cerebral dominance patterns are caused by linguistic environment and not by heredity.

The structural as well as phonetic features of other Asian languages are well documented by other scholars (Choy, 1981; Kim, 1988; Lee, 1989; Li, 1983; Tzeng, 1983; Wang, 1983).

In addition to the structural and phonetic considerations, orthographic differences need to be examined between Asian languages and English. There are twenty-nine scripts in common use in daily newspapers in the world: five are found in the area around the Near East, and twenty-one scripts, in addition to the Latin, Arabic, and Cyrillic (Russian) scripts, are used in Asia. Except for the two major non-Latin scripts, Greek and Cyrillic, the entire Western world uses the Roman alphabet (Nakanishi, 1980).

Wang (1983) believes more research is needed on the Chinese writing system, or "hanzi" ("kanji" in Japanese, and "hanja" in Korean) that presents cues simultaneously to both the sound and the meaning of the word. "Hanzi" is a type of logograph, or sometimes called pictograph and ideograph. The present form of "hanzi" appeared in the history of China about 3,400 years ago. Hanzi (Han script) was named after Han dynasty, which flourished approximately 2,000 years ago.

According to Choy (1981), a Chinese speaker needs to know around 2,800 "hanzi" characters to understand 98% of any current Chinese text, and would need to know 7,000 more to understand the remaining 2%.

"Hanzi" influenced both Korean and Japanese greatly in spite of the fact that these two languages belonged to a different language family from Chinese. In addition to "hanzi" (or "kanji" in Japanese), two types of syllabaries, "hiragana" and "katakana" are used in Japanese (Wang, 1983). In Korea, "hanzi" (or "hanja" in Korean) was used exclusively until King Sejong invented "han-gul" (the Korean alphabet) in the fifteenth century (Kim, 1988). While the "han-gul" spelling system is phonologically based, it is a morphologically bound writing system.

These "hanzi" characters may be cognitively processed differently from English alphabetical letters that represent only sound. In other words, "hanzi" transfers the written symbols directly into meaning while the "alphabet" is sound writing. Both Chinese and Japanese would have difficulties differentiating the excessive homophones in the spoken units without "hanzi" (Tzeng, 1983).

Tzeng (1983) examined the cognitive processing of the various orthographies from the point of view of experimental psychology. Reading skills learned in one orthography might not be the same as those in another orthography. Tzeng indicates that the left hemisphere dominance of the brain is

expected for sound-based symbols such as English while the right hemisphere dominance is expected for the recognition of "kanji" logographs. Further research on cognitive processing can be especially valuable not only for the bilinguals but also for the development of instructional strategies for second language readers.

As research reviewed above has shown, numerous differences exist between Asian languages and English. Asian-American bilinguals may be cognitively processing their two languages entirely differently. While it is dangerous to generalize the similarities and differences between English and all Asian languages, it is important to recognize that more differences than similarities exist between English and Asian languages. For example, few analogies of morphology or grammar are useful to a speaker of English trying to learn Korean, or vice versa (Kim, 1980). Although many English words have been recently assimilated into the Japanese language, the portion is relatively small in comparison to the entire lexicon.

There has not been a great deal of publications on the topic of cognitive assessment among the Asian-American bilinguals. However, Cognitive Assessment of Asian Americans (Hsia, 1981) provides reliable and valid data on Asian-American achievement and aptitude. The examples of data include Graduate Record Examinations (GRE), Law School Admission Test (LSAT), Medical College Aptitude Test (MCAT),

and Scholastic Aptitude Test (SAT). In addition to these standardized tests administered nationally, Tsia reports the results of other tests administered on a smaller scale.

The results of these tests seem to point out one striking feature of the Asian-Americans. They all indicate that the Asian-Americans score higher in non-verbal sections than the White test takers, while their verbal scores lag behind those of White students. The typical Asian-American shows strength in mathematics, reasoning, and space conceptualization abilities (cited in Hsia, 1981). Hsia concludes that this claim is valid even among U.S. born Asian-Americans who do not display any visible disadvantage in their English skills.

Studies on the cognitive assessment of younger Asian-American bilinguals are also limited. Brisk (1976) attempted a systematic study of English language skills among the Chinese population in the United States. The study consisted of six tests designed to cover five general areas of language skills; listening, speaking, reading, writing and appropriate language use. Her study was valuable in trying to develop new diagnostic and pedagogic strategies for the Asian people with unique linguistic and cultural heritages as she compared the Chinese students with the Spanish speaking children. However, the study did not compare the bilingual children with their monolingual counterparts.

Studies on young Asian-Americans cited in Hsia (1981) also compare an Asian-American group with the White students or other ethnic groups at a certain age, but no comparisons were made between the bilinguals and monolinguals.

This lack of research may be due to any number of reasons. One of the reasons might be the fact that many Asian-American children are academic high achievers, and that researchers think these children have no academic or adjustment problems at all. Another reason may be that most Asians are silent sufferers, who are not likely to vocalize their problems publicly.

In addition to stimulating the cognitive development of Asian-American bilinguals, Niyekawa implies that bilingualism involving an Asian language and English has a stronger influence on an individual's self-concept than bilingualism involving a European language and English because Asian-American bilinguals have to overcome the greater difference in languages, value systems, and their physical appearance. She argues that highly developed bilingualism plays a key role in enhancing Asian-Americans' self-concept.

However, there seem to be several reasons why the enhancement of self-concept may be difficult for Asian-Americans in the United States. First of all, Asian-Americans' physical appearance tends to evoke certain stereotypical reactions among mainstream Anglo-American population,

which in turn may cause Asian-Americans to feel ashamed of their ethnic or cultural origin (Inn, 1983). Many Asian societies are so called "shame" cultures; often Asians' self-concept is greatly influenced by others' perception of them.

Secondly, Asian-American children may think less of themselves if their teachers at English monolingual schools tend to employ ethnocentric Anglo-American curricula to the point that they exclude any minority cultural influences. Teachers and educators are well respected authorities whose opinions are very much valued in Asian cultures. The exclusion of their minority cultures in the mainstream curricula may cause Asian-American children to feel they are less important than Anglo-American children (Inn, 1983).

Thirdly, the notion of "self-concept" itself may be a relatively new concept in Asian-Americans' minds. The Asian cultures value "family" over "self", and "group" over "individual". Individuals' identities are often defined in relation to their family units. For example, this concept is clearly manifested in a Japanese wedding where an announcement would declare that "X family" and "Y family" are united by marriage rather than stating "Mr. X" and "Ms. Y" are united by marriage.

However, some scholars share the view that, as a biproduct of bilingualism, bilingual individuals are able to adjust better in a multi-ethnic society such as the United States in addition to being able to accept their dual

identities (Bagley, 1983; Inn, 1983; McCollum, 1981; Nishida 1985; Niyekawa, 1983; Sikkema & Niyekawa, 1977; Szapocznik et al., 1980). This might be particularly true for the Asian-Americans. Niyekawa (1983) maintains:

In a nonhostile environment, there appears to be a biproduct to having mastered two or more languages and cultures. It is the mental capacity to deal with the ambiguous, the unstructured with less anxiety and greater openness. In other words, the biliterate, bilingual, bicultural person, especially in two divergent languages and cultures like Western and Asian or Pacific, not only has broadened his or her intellectual horizon but also has the potential of growing personally to be more open and flexible. (p.115)

Despite the fact that I have discussed Asian-Americans as a group in this review, the need for studies on individual Asian language and cultural communities (e.g. Chinese-, Japanese-, and Korean-) is evident. Each immigrant group has arrived in the United States with its unique linguistic history and culture.

For example, the language situation in Taiwan is very complicated. During the Japanese occupation of Taiwan prior to 1945, Japanese was designated as the official language of Taiwan. Following the liberation from Japan at the end of World War II, another language, Mandarin, was imposed on the speakers of Taiwanese by its government while the use of native Taiwanese was suppressed (Wong, 1988). The Taiwanese people suffered a long period of linguistic restrictions.

Korea was also colonized by Japan from 1905 to 1945; during that time Japanese was used exclusively to educate

Korean children. For many immigrants, the use of their native language seems to mean enhancing their ethnic identity. This might be particularly true for Korean people because of their historical circumstances. When Korea was liberated from Japan in 1945, the Korean language was reinstated as an official language (Kim, 1988). It is understandable, then, that this reinstatement of their language might have brought renewed national pride in the minds of the Korean people. Byun (1990) states that earlier Korean immigrants in Hawaii maintained their ethnic language because they wanted to be identified as different from the Japanese.

Korean-Americans are relatively new members of the U. S. society compared to Japanese or Chinese immigrants who came here as early as late 18th century. Most Koreans came to the United States after the Immigration and Naturalization Act went into effect in 1965. The 1980 Census reveals that 82% of the Korean Americans were foreign born, and that the median age was 26 for men and 27 for women (cited in Kim). Since that census, this distribution of Korean-American population may have changed.

Although Kim, Sawdey, and Meihoefer report that adult communication among Korean Americans is almost exclusively in Korean, and that approximately 72% of parent-child communication is in Korean, the results of their study are contradictory. For example, 57% of the Los Angeles area

Korean-American parents wanted their children to speak only English at home while 18.7% of the Chicago area parents did so (cited in Kim, 1988).

The ambivalent attitudes displayed by the Korean-American parents seem to indicate that they are facing a dilemma. The Korean-Americans want their children to adapt American cultural traits such as assertiveness, and individuality in addition to the English language skills to be successful and self-assured in mainstream Anglo-American culture.

What they are not sure of seems whether it is feasible to keep up or give up their ethnic language for their success in the U. S. mainstream culture. Often, to maintain the Korean language in the current situation in the United States requires a greater parental commitment on their time and finance. Korean American parents may think their children are well adjusted as long as they perform well in English monolingual schools. As school achievement is perceived not as an individual, but as a family matter (e.g. The family loses face, if a child performs badly in school.), a child's performance in school has a very special significance among the Korean culture, or Chinese and Japanese culture for that matter. Some parents may be resigned to accept their children's gradual loss or weakening of the Korean language in lieu of their success in mainstream English schools.

While differences are many between the mainstream U. S. culture and an ethnic Asian culture, acculturation is a multidimensional process which should not be viewed only as a process to become Americanized. Adopting a host language and culture and retaining one's ethnic language and culture need not be mutually exclusive. As Niyekawa (1983) and other scholars suggest, perhaps, bilingual, bicultural Asian-American children are better adjusted in the U.S. cultural context than their monolingual counterparts.

The literature reviewed suggests that it is necessary to give separate consideration to bilingualism involving an Asian and European language because numerous differences exist between an Asian and European language as well as an Asian and Western culture. In addition to the linguistic and cultural differences discussed earlier, Hsia (1981), Tsunoda (1985), and Tzeng (1983) point out more internal issues such as psycholinguistic and neurolinguistic differences that exist between the native speakers of English and of an Asian language, which might be directly related to the cognitive developmental patterns among Asian language speakers as well as an Asian and a European language bilinguals.

Hsia (1981) found one unique cognitive feature among Asian-Americans to be high mathematical ability which is less related to high verbal ability than among all other ethnic groups. Hsia's overview on various tests that assessed

cognitive abilities of Asian-Americans of different age groups discovered that they all possessed higher non-verbal than verbal skills.

SUMMARY

Studies on bilingualism prior to 1960 suggested that bilingualism hindered cognitive development of bilingual children (Arsenian, 1937; Hirsch, 1926; Mead, 1927; Rigg, 1928; Sear, 1922). Bilingual children were believed to be cognitively less developed than their monolingual counterparts as they performed poorly in school. It was believed that bilingualism itself might cause cognitive confusion in the child.

Cummins (1976) and more recent scholars found bilingual individuals to be cognitively more developed than their monolingual counterparts particularly in the areas of general intellectual development, divergent thinking, analyzing various aspects of language, and sensitivity to feed-back cues and to non-verbal communication (Bain, 1975; Ben-Zeev, 1977; Hakuta, 1986a; Landry, 1974; Peal & Lambert, 1962).

Although the results have been contradictory, the current literature (Cummins, 1979; Hakuta, 1986; Hakuta, 1990; Skutnabb-Kangas, 1981) seems to support superior performance by bilingual individuals. Niyekawa and other scholars (Brisk, 1976; Chu-Chang, 1983; Hsia, 1983; Inn, 1983; Tzeng, 1983) claim that separate consideration is

necessary for Asian-European language bilingualism due to the greater difference in languages, cultures, and value systems in addition to the differences that exist in cognitive styles.

CHAPTER III

METHOD

Three major instruments were used to conduct this research project: telephone interviews, written questionnaires, and standardized test scores. The Korean-American high school students were interviewed by telephone while consent forms were mailed to them. At the time of the telephone interview, the students would either agree or disagree to release standardized test scores. When they agreed to release their test scores, a second mailing was made. (See appendix.)

SUBJECTS

The subjects for this study consist of 46 bilingual, and 23 monolingual Korean-American high school students selected from an Oregon school district. The Korean-American students were chosen over other Asian-American groups for the following reasons;

1. There are approximately 20,000 recent Korean immigrants living in the state of Oregon, making them the largest Asian-American population in the area.

2. It is assumed that the parents of many Korean-Americans are self-employed, which translates into non-mobility of households. The assumption is that they have been living in one school district for a long time; therefore, necessary data may be collected more easily.
3. A pilot study conducted on 30 Korean-American students in one of the three high schools in the district proved promising. The majority of the students, who were long term residents of the school district, were cooperative with initial telephone interviews for the pilot study.

The Korean-American students for the pilot study were identified by their family names using a high school directory. From the pilot study, it was assumed that there were at least 90 possible subjects among three high schools in the district; however, an ethnic roster provided by the school district listed 139 Korean-American students.

The ethnic roster included the names and addresses of 139 Korean American students in grades 10 through 12 from three high schools in the district. As the list did not include the students' telephone numbers, they had to be obtained by visiting each high school. There were 16 students whose telephone numbers were unavailable.

Each student in this school district is assigned a student number, which proved to be very helpful in the process of recruiting the subjects for this study. It was

discovered that the smaller the student identification number, the longer the student had been in the school district. Therefore, students with smaller identification numbers were approached first.

The sixteen students whose phone numbers were unavailable did not respond to the written inquiry. The remaining students or their family members were contacted by telephone at least once. Some parents were reluctant to let their children talk to a researcher. However, many of the Korean-American students were cooperative when contacted by telephone, and they spent 10 to 20 minutes for interviews.

Only 9 out of the 104 students directly contacted by telephone said that they were not interested in participating in this study. The rest, 95 students, agreed to be interviewed; however, not all of them were willing to release their standardized test scores, or in some cases the test scores were not available. In some other cases, the students were willing, but their parents were reluctant to let them release test scores.

Of the 95 students interviewed, 26 were recent arrivals whose test scores would be irrelevant to this particular research project as their English skills were not yet fluent. The 69 students who were good candidates as subjects were interviewed extensively by telephone.

Although 61 of the 69 participating students orally agreed to releasing their test scores, only 38 parents

returned the written consent forms which authorized the release of their children's test scores by the school district. Of the 38 parents, 30 also returned written questionnaires.

INSTRUMENTS

The instruments used in this research consist of three parts: telephone interviews, written questionnaires, and standardized test scores.

The questions for the initial telephone interviews were formulated to discover the actual use of the Korean and English language by the participating students as well as their motivation and attitudes toward the two languages. Ten major questions were asked to determine if there were any tendencies in the activities or attitudes of Korean-American bilingual students. For specific questions, please see appendix.

The written questionnaire was designed to address such variables as parents' educational backgrounds, socio-economic status, and motivational factors in maintaining bilingualism. For example, the parents were asked why they had decided to move to the United States, if they were immigrants. They were also asked why it was important or not important for their children to maintain their ethnic language in addition to English. Please see appendix for the specifics.

Survey of Basic Skills (SBS) test scores as well as Cognitive Abilities Test (CogAT) scores at different grade levels were used to answer the research hypotheses. They are administered to all students in this district in grades 3 through 12 each year. In the district, both SBS and CogAT scores are important aspects in identifying children for the Talented and Gifted program.

The SBS is a series of norm-referenced standardized achievement tests published by Science Research Associates. Each test is designed to compare an individual student's academic achievement with that of other students throughout the United States. All the scores are expressed in percentiles against national norms, and are dependent variables in this study.

A percentile score on a particular test shows how an individual compares with a great number of test takers in the same grade who represent the total school population in the United States. For example, if an individual's score in a particular skill area was a 75 in the national percentile, this would mean that this student performed better than 75% of all the students in the same grade level who took the test during a testing study called standardization. It means also that 25% of the students performed as well as or better than this individual.

The CogAT is also a norm-referenced standardized test. While the SBS examines specific academic achievement, the

CogAT is designed to measure cognitive abilities. An individual's test score reflects the student's ability to discover relationships and flexibility in thinking. Although the test is expected to measure verbal, quantitative, and non-verbal cognitive abilities, only the composite score is expressed as a national percentile in the CogAT.

The purpose of this test is to determine how students' cognitive abilities compare with their academic achievement. For example, if a student is academically achieving at a 75th percentile while scoring at a 90th percentile in the CogAT, this would indicate that this particular individual was underachieving at the time these tests were administered. The margin of error is not clearly stated; however, a score seems to fall in a range about 4 percentile points above or below the actual score (approximately 4%) for both the SBS and the CogAT.

Four measures seemed appropriate to substantiate the research hypotheses:

1. SBS Reading scores at grades 3, 5, 7, and 9.
2. SBS Mathematics scores at grades 3, 5, 7, and 9.
3. SBS composite scores at grades 3, 5, 7, and 9.
4. CogAT scores at grades 3, 5, 7, and 9.

PROCEDURES

A pilot study was conducted using Korean-American students in one of the three high schools in an Oregon school

district in the spring of 1991. After the pilot study seemed promising, the thesis proposal was submitted to the Director of Planning and Evaluation of this school district in October, 1991. Following a lengthy review process, permission to conduct this research was granted at the district level in February, 1992.

Using an ethnic roster provided by the school district, a recruitment letter as well as a consent form and a parental questionnaire form were mailed to each of 139 Korean-American students in grades 10 through 12. At the same time, attempts were made to directly contact 123 students whose telephone numbers were available. The subjects for this research were recruited in the manner described earlier in this chapter.

Bilingualism, or monolingualism was determined by interviewing the subjects and their parents. Some students were modest, and would evaluate their Korean language skills to be poor even when they were using the language as the major means of communication at home. In such a case, the student was put in the bilingual category against self evaluation. In some households, parents speak Korean to their children while the children speak English to them. When the comprehension of the Korean language was limited to the point where the students could not speak the language, they were placed in the monolingual category.

After students were identified as monolingual or bilingual, code numbers, rather than individual names, were

used to protect confidentiality. All the background variables were obtained from students themselves as well as from parental questionnaires.

Written consent forms by parents or guardians were required to have the school district release the SBS as well as CogAT scores to the researcher. At the time of the initial telephone interview, the students were asked if they would be willing to release their standardized test scores. Sixty-one of the 69 participating students orally agreed to the release of test scores; however, the final count of the students returning the written consent forms was 11 monolinguals and 27 bilinguals.

One angry telephone call came from a parent of one student who wanted to participate in this study against the parents' wishes. The parent complained about the fact that the child had been contacted by telephone without prior parental permission. A letter of apology was immediately mailed to the parent.

Parental questionnaires were mailed to the parents of participating students. The questionnaire was designed to discover such variables as educational, economic, occupational, and social backgrounds as well as attitudes toward Korean language and culture. Of the 38 parents who agreed to release the test scores, 30 also returned the written questionnaires.

It took more than three months to conduct telephone interviews, and to collect consent forms. At the beginning of June, 1992, all the test scores for the 38 students were collected from three high schools in the district. The specific information gathered by telephone interviews, written questionnaires, and standardized tests will be discussed in detail in the later chapters.

CHAPTER IV

FINDINGS

This chapter consists of three parts: Part 1 will look at the telephone interviews conducted with 69 Korean-American students. Part 2 will deal with the 30 mailed questionnaires returned by the parents of the subjects. Part 3 will analyze the standardized test scores of 11 monolingual and 27 bilingual Korean-American students at grades 3, 5, 7, and 9.

PART 1. THE RESULTS OF TELEPHONE INTERVIEWS

Interviews were conducted with 95 of the 123 students whose phone numbers were available. This is a return rate of 77.2%. Initially, attempts were made to contact all 123 students; however, it was not possible to speak directly with 19 of the 123 students as they were not available to speak at the time, or a family member was reluctant to relay the message to the possible subjects. Nine students said that they would not be interested in participating in this study.

Of the 95 students interviewed, 26 were recent arrivals whose scores on standardized tests in English would be irrelevant to this particular research as they have not achieved fluency in the second language. Therefore, an extensive interview was conducted only with students who were

born in the United States, or those who immigrated to the United States before their 12th birthday.

The first two questions dealt with how long the student had been living in the United States, and in the Oregon School District in particular. The next seven questions were designed to assess the actual use of the two languages involved, English and Korean. The final question related to participating in extra curricular activities which may or may not be similar to those of American High School students in general. In other words, these questions were asked to determine if there were any particular characteristics in the activities or attitudes of Korean-American bilingual students. The responses to the interviews are as follows:

1. When and where were you born? If you were born outside the United States, when did you move to the States?

Of the 69 students, 23 (33.4%) were U.S. born. Fifteen students (21.7%) came to the United States before their 4th birthday while another 15 (21.7%) arrived between their 4th and 8th birthday. The rest, 16 students (23.2%), immigrated after their 8th but before their 12th birthday. All the immigrants were born in Korea.

2. How long have you lived in the Oregon School District?

Only 12 (17.4%) students have lived in the school district for less than four years while the rest of the students (57 - 82.6%) have lived there for more than four

years. Many of the 57 students have lived in the same school district all their lives.

3. Do you consider yourself bilingual?

In seeking to determine the level of fluency in Korean, five categories were suggested:

fluent (can converse without any difficulty)

passable (can speak some, but the vocabulary is limited)

a little (can understand, but cannot answer in Korean)

hardly (can understand very little)

not at all

This self evaluation was fairly accurate for most students; however, some students appeared to be critical of themselves. There were some cases where other information such as the parental questionnaire or daily activities suggested the particular students to be fluent in Korean while the students themselves thought their Korean language skills were limited.

For the purpose of this study, the subjects were categorized into two groups, bilingual and monolingual. The bilingual category included "fluent" and "passable" while "a little," "hardly," and "not at all" were placed in the monolingual category. The categorization was made according to the self-evaluation, and information gathered by other interview questions as well as parental questionnaire. This study found 23 (33.3%) of the 69 students interviewed to be

monolingual while 46 (66.7%) students were bilingual. The distribution of the subjects arriving in the United States is as follows.

TABLE I
AGE ARRIVED IN U.S.

	Bilingual	Monolingual	Totals
Born in U.S.	11 - 16.0%	12 - 17.4%	23 - 33.4%
Before age 4	7 - 10.1%	8 - 11.6%	15 - 21.7%
Ages 4 -8	12 - 17.4%	3 - 4.3%	15 - 21.7%
Ages 8 -12	16 - 23.2%	0 - 0 %	16 - 23.2%
	-----	-----	-----
	46 - 66.7%	23 - 33.3%	69 -100.0%

Of the 23 monolingual Korean-American students, 12 (52.2%) were U.S. born, 8 (34.8%) arrived in the United States before their 4th birthday. Three (13.0%) monolingual (in English) students said that they had moved to the United States before their 8th but after their 4th birthday. In other words, 52.2% of the monolingual students were U.S. born while 47.8% were immigrants.

On the other hand, only 11 (23.9%) of the 46 bilingual students were U.S. born while the rest of the bilinguals (35 - 76.1%) were immigrants.

4. Do you read Korean? Do you write Korean?

Of the 11 U.S. born bilingual students, 4 (36.4%) were able to read and write "han-gul" letters although the same four students mentioned that they could not read or write "hanja" characters. Six (54.5%) said that they did not read or write Korean writings at all. The remaining student (9.0%) was able to read all the "han-gul" letters while not being able to write them.

Among the 7 bilingual students who arrived in the United States before their 4th birthday, all 7 (100.0%) were able to read at least "han-gul" letters while none read "hanja" characters. Six students (85.7%) were also able to write all "han-gul" letters, but one (14.3%) could not write them.

Three (25.0%) out of 12 bilingual students who immigrated to the United States between their 4th and 8th birthdays were able to read and write the two sets of writing systems. Four (33.3%) were able to read and write only "han-gul" letters while another four did not read or write any Korean writings. One (8.3%) bilingual student in this category had the reading but not the writing skill of the "han-gul" letters.

As for the 16 bilingual students who moved to the United States after their 8th birthday, only 2 (12.5%) did not have reading or writing skills of the Korean writing systems. Twelve (75.0%) were able to read and write "han-gul" letters while one (6.3%) student could read and write the two sets of the Korean writings. One (6.3%) of the 16 students was able

to read "han-gul" letters, but was not able to write any "han-gul" or "hanja" letters.

5. How do you study Korean?

Forty-six bilingual Korean-American students responded to this question. (See "TABLE II". Note some students gave multiple responses.)

TABLE II
THE KOREAN LANGUAGE LEARNING METHODS BY BILINGUALS

	U.S. born	Immigrants before 4	Immigrants ages 4 - 8	Immigrants age 8 - 12
At home	11 -100.0%	7 -100.0%	12 -100.0%	16 -100.0%
Korean school	6 - 54.5%	3 - 42.8%	3 - 25.0%	3 - 18.8%
Social settings	3 - 27.3%	3 - 42.8%	0 - 0 %	4 - 25.5%
Tutor	2 - 18.2%	1 - 14.3%	2 - 16.7%	1 - 6.3%
Reading	1 - 9.1%	3 - 42.8%	2 - 16.7%	2 - 12.5%
Audio-visual	0 - 0 %	0 - 0 %	2 - 16.7%	0 - 0 %
Letter writing	0 - 0 %	0 - 0 %	0 - 0	1 - 6.3%

6. Do you think it is important for you to be able to speak Korean? Why? Why not?

Of the 23 monolingual students, 11 (47.8%) thought that it was important for them to be able to speak Korean while 12 (52.2%) said it was not important. Of the 11 students who

suggested "important," all of them expressed that they did not always think so, but rather they began to think that way after attending junior high school. Ten students (90.9%) suggested "ethnic or cultural identity" to be the most important reason for maintaining the Korean language. Only one (9.1%) student felt that maintaining Korean would help expand career opportunities in the future.

All (100.0%) of the 12 students who said it was not important to maintain the Korean language felt that the language was not necessary in everyday life.

Of the 46 bilingual students, 45 (97.8%) thought it was important for them to be able to speak Korean while only one (2.2%) felt it was not. The one student whose attitude toward Korean was not "important" had the same opinion as the monolingual students who said that the Korean language was not necessary in everyday life. The only difference was that this bilingual student needed to use Korean as the main means of communication at home.

The 45 students who said that maintaining Korean was important suggested the following reasons for maintaining the language (Multiple responses):

Cultural identity	37 (82.2%)
Necessity at home	13 (28.8%)
Career opportunity	4 (8.9%)
Broader perspectives	1 (2.2%)

7. Do your parents want you to speak Korean in addition to English?

Of the 23 monolingual students, 15 (65.2%) thought that their parents wanted them to speak Korean although 8 (34.8%) did not think that it was important for their parents whether the students spoke the language or not. Among the 46 bilingual students, 42 (91.3%) were positive that their parents wanted them to maintain the ethnic language while 4 students (8.7%) suggested differently.

8. Which language is spoken at your home?

TABLE III
LANGUAGE USE AT HOME

	Between parents		Between parents and children		Among children	
	Mono-	Bi-	Mono-	Bi-	Mono-	Bi-
Korean	12-52.2%	38-82.6%	0- 0.0%	26-56.5%	0- 0.0%	4- 8.7%
Both	3-13.0%	8-17.4%	a7-30.4%	20-43.5%	0- 0.0%	10-21.7%
English	8-34.8%	0- 0.0%	16-69.6%	0- 0.0%	22-95.7%	26-56.5%
b N/A					1- 4.3%	6-13.1%
Totals	23	46	23	46	23	46

a Parents use Korean while children speak English.

b Not applicable as only child

In TABLE III, "Both" indicates that both Korean and English are used as the main means of communication. As shown in the table, 7 (30.4%) monolingual students spoke English to their parents while their parents used mostly Korean. In the same category, 20 (43.5%) bilingual students used both Korean and English with their parents without any particular restrictions.

There were one (4.3%) monolingual and six (13.1%) bilingual students who were the only child in the family, which meant that the question regarding language interaction among siblings was not applicable. The monolingual student used English at all times. Of the 6 bilingual students, 5 used Korean exclusively with their parents while one of the 6 students indicated both English and Korean were used between the two parents as well as between the parents and the child.

9. How many children are there in your family?

As shown in TABLE IV, the families of monolingual students and bilingual students displayed similar distributions. For example, the largest group was a family with two children in both the monolingual and bilingual categories. Thirteen (56.6%) monolingual and 27 (58.7%) bilingual students belonged to this category.

The next largest group was a family with three children in both groups. Four (17.4%) monolingual and 9 (19.6%) bilingual students belonged to this category.

TABLE IV
NUMBER OF CHILDREN IN KOREAN-AMERICAN FAMILIES

	Monolingual	Bilingual
1 child family	1 - 4.3%	6 - 13.0%
2 children "	13 - 56.6%	27 - 58.7%
3 " "	4 - 17.4%	9 - 19.6%
4 " "	4 - 17.4%	2 - 4.3%
5 " "	1 - 4.3%	1 - 2.2%
6 " "	0 - 0.0%	0 - 0.0%
7 " "	0 - 0.0%	0 - 0.0%
8 " "	0 - 0.0%	1 - 2.2%
Totals	23 -100.0%	46 -100.0%

The next question relating to the number of children in a Korean-American family was where the subjects for this study stood in relation to other children in the family.

What is your position among your siblings?

One bilingual student who was the 8th child implied that this individual was raised like an only child as the closest sibling was 8 years older. If this individual had been included in the "first child" category, 54.3% rather than 52.2% of the bilingual students would have been the first born in the family. Sixteen (34.8%) bilinguals were the second born. There were 30.4% first born and 52.2% second

born children among the monolinguals. An overwhelming 89.1% of the bilinguals and 82.6% of the monolinguals were either the first or second child in a Korean-American family.

TABLE V
SUBJECTS' POSITIONS AMONG SIBLINGS

	Monolingual	Bilingual
1st among siblings	7 - 30.4%	24 - 52.2%
2nd " "	12 - 52.2%	16 - 34.8%
3rd " "	4 - 17.4%	5 - 10.8%
4th " "	0 - 0.0%	0 - 0.0%
5th " "	0 - 0.0%	0 - 0.0%
6th " "	0 - 0.0%	0 - 0.0%
7th " "	0 - 0.0%	0 - 0.0%
8th " "	0 - 0.0%	1 - 2.2%
Totals	23 -100.0%	46 -100.0%

10. What types of extracurricular activities are you participating in? (Multiple responses)

While the majority of the subjects gave multiple responses, one (4.3%) monolingual and two (4.3%) bilingual students said that they were not participating in any extra curricular activities at all. The academic activities included honor societies as well as academic clubs in various disciplines. Foreign language clubs were included in both

the academic and international activities. A student who was participating in multi-activities in one area -- e.g. taking piano and violin lessons while playing for an orchestra. (Music) -- is counted as "one individual participant."

TABLE VI
EXTRACURRICULAR ACTIVITY PARTICIPATION

	Monolingual	Bilingual
Sports	20 - 86.9%	28 - 60.9%
Music	8 - 34.8%	20 - 43.5%
Church & religious activities	9 - 39.1%	21 - 45.7%
International	7 - 30.4%	9 - 19.6%
Academic activities	5 - 21.7%	10 - 21.7%
Political activities	2 - 8.7%	2 - 4.3%
Ethnic activities	1 - 4.3%	5 - 10.9%
Volunteer work	3 - 13.0%	5 - 10.9%
Family business	0 - 0.0%	5 - 10.9%
Paid job	8 - 34.8%	5 - 10.9%

PART 2. THE RESULTS OF THE QUESTIONNAIRE

A total of 30 sets of parents responded to written questionnaires. The parents of 8 monolingual students and 22 bilingual students returned written questionnaires along with their consent forms. The parental questionnaire consisted of six major questions which were designed to describe the

parents' attitudes toward bilingualism as well as their educational, and socio-economic backgrounds.

1. Are you immigrants? If so, what were your reasons to immigrate to the United States?

Of the parents of 8 monolingual students, 5 (62.5%) fathers and 4 (50.0%) mothers were born in the United States while 3 (37.5%) fathers and 4 (50.0%) mothers were immigrants. Among the immigrant parents, one father mentioned "better education" and two fathers stated "better jobs" for their reasons to have immigrated to the United States. Of the four immigrant mothers, one said, "marriage," one mentioned, "better education," and the remaining two thought of "better jobs" as their reasons for immigration.

TABLE VII

REASONS THE PARENTS OF BILINGUAL STUDENTS IMMIGRATED

	Father	Mother
Better jobs	12 - 57.1%	9 - 42.9%
Better education	8 - 38.1%	8 - 38.1%
Freedom	1 - 4.8%	1 - 4.8%
Marriage	0 - 0.0%	3 - 14.2%
Totals	21 -100.0%	21 -100.0%

All the parents (100%) of 22 bilingual students were immigrants: however, one student did not have a father while

another student did not have a mother. Therefore, the results of the written questionnaire reflect the responses from 21 fathers and 21 mothers.

Although multiple responses were suggested, each parent chose to give one single answer, and all the responses were within the four categories mentioned above, better jobs, better education, freedom, and marriage.

2. How old were you when you immigrated to the United States?

Among the 3 immigrant fathers of the monolingual students, the median age of immigration was 25 while the mean was 26 years old; one immigrated at the age of 21, one at 26, and one at 32. Among four immigrant mothers of the monolingual students, the median age was 22 while the mean was 23.5; one immigrated when 20 years old, two at 22, and one at 30.

The age range for the immigrant parents of bilingual students was much wider. The fathers of bilingual students were from 26 to 51 years old at the time of immigration, and the mothers ranged from 21 to 42 years old. The median age for the fathers was 34 while the mean was 34.1. The mothers' median age at the time of immigration was 30, and the mean was 30.9 years old. Please see Figure 1 for more details.

The following questions were asked to learn about the variables which might be closely related to the children's success in school.

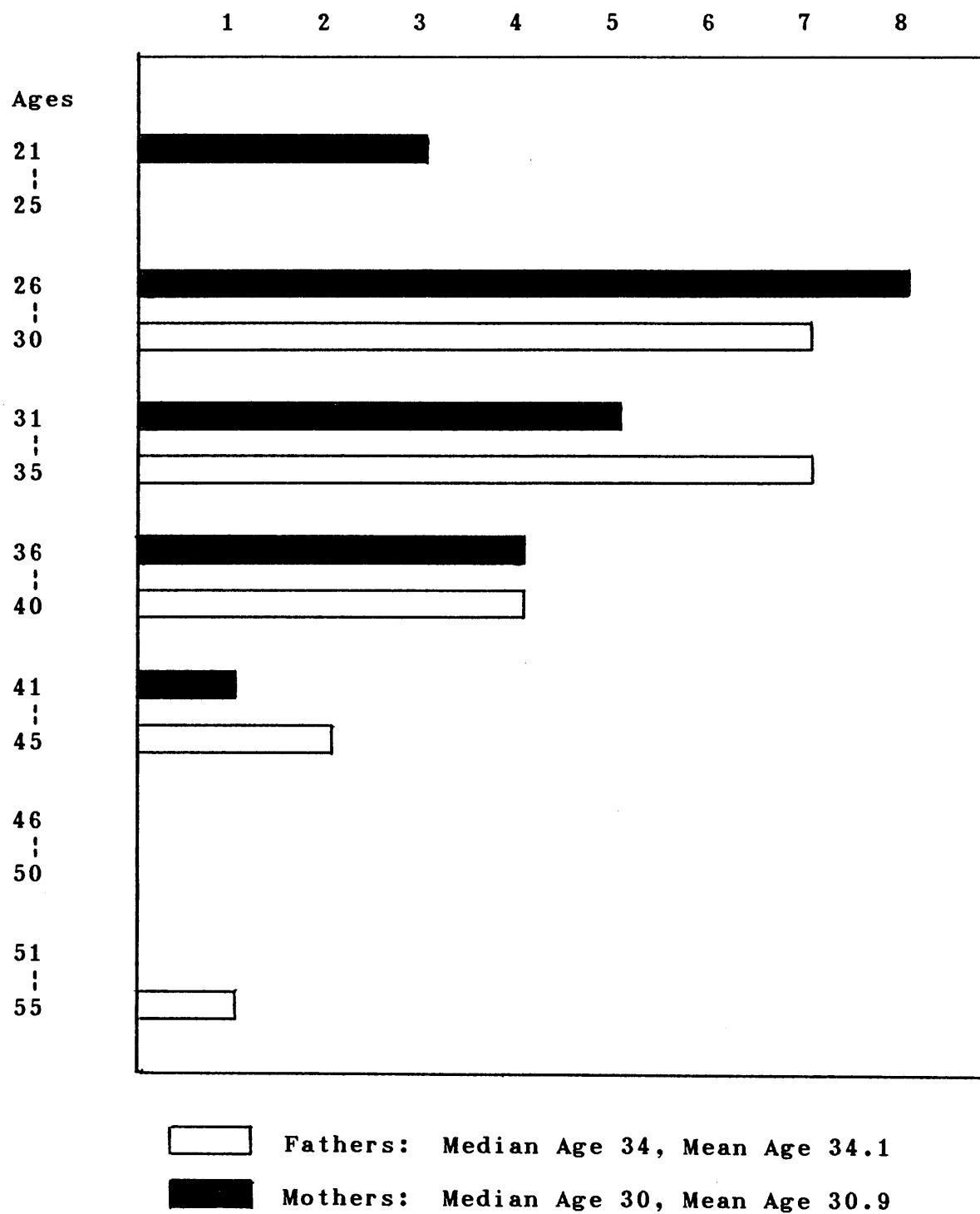


Figure 1. Age When the Parents of Bilingual Korean-Americans Immigrated to the United States.

3. What are your educational backgrounds?

All the parents of Korean-American students seemed well educated. Of the five U.S. born fathers of monolingual students, one had finished high school, one had finished 2-year college, and three had graduated from 4-year college. Two of the U.S. born mothers were 4-year college graduates while the other two U.S. born mothers had finished high school.

Two (66.7%) of the three immigrant fathers of the monolingual students had earned doctoral degrees from U.S. institutions after finishing a part of their higher education in Korea. The third father immigrated to the United States after graduating from a 4-year college in Korea. The answers to this question regarding the parental educational background revealed that 7 (87.5%) of the 8 fathers of the monolingual students had been educated in the United States.

One (25.0%) immigrant mother of the monolingual students had earned a master's degree from a U.S. university after completing undergraduate work in Korea. One (25.0%) mother had finished a 2-year college program in the United States following her immigration although she already had a bachelor's degree from a Korean university. Another (25.0%) mother also had completed 2-year college education in the United States after graduating from a Korean high school. The fourth immigrant mother was a Korean high school graduate without any further studies in the United States.

Therefore, seven (87.5%) of the 8 mothers were also educated in English in the United States.

TABLE VIII
PARENTS' EDUCATIONAL BACKGROUNDS

	Father	Mother
Jr. High School	1 - 4.8%	1 - 4.8%
Sr. High School	2 - 9.5%	8 - 38.1%
2-Year College	6 - 28.6%	7 - 33.3%
Bachelor's degree	10 - 47.6%	5 - 23.7%
Master's degree	2 - 9.5%	0 - 0.0%
Other advanced degree	0 - 0.0%	0 - 0.0%
Totals	21 -100.0%	21 -100.0%

In TABLE VIII, the educational levels attained only in Korea by the immigrant parents of the bilingual students are shown. In addition to the education received in Korea, one (4.8%) father had completed a 2-year program, and another (4.8%) had earned a master's degree from a U.S. institution. One (4.8%) immigrant mother also had completed a 4-year college program in the United States. Compared with 7 (87.5) fathers and 7 (87.5%) mothers who had experienced formal education in the United States in the monolingual category, only 2 (9.5%) fathers and 1 (4.8%) mother of the bilingual students had attended U. S. institutions.

4. What are your occupations?

As was anticipated at the beginning of this research, a large number of Korean-American parents were self-employed in such businesses as restaurants, dry cleaning, grocery and other types of stores. In TABLE IX, freelance writers, and accountants are also placed in the self-employed category.

While store owners are placed in the self-employed category, store managers, and office workers are placed in the white collar category. The blue collar category includes such occupations as cooks, machine operators, factory workers.

Four mothers of the bilingual students are placed in the "Homemaker" category rather than "unemployed" as they implied that they chose to be full time homemakers.

TABLE IX
PARENTS' OCCUPATIONS

	Father's occupations		Mother's occupations	
	Mono-	Bi-	Mono-	Bi-
Self-employed	5 - 62.5%	14 - 66.7%	3 - 37.5%	12 - 57.1%
Professionals	3 - 37.5%	5 - 23.8%	1 - 12.5%	0 - 0.0%
White collar	0 - 0.0%	0 - 0.0%	4 - 50.0%	0 - 0.0%
Blue collar	0 - 0.0%	2 - 9.5%	0 - 0.0%	5 - 23.8%
Homemaker	0 - 0.0%	0 - 0.0%	0 - 0.0%	4 - 19.1%
Totals	8 -100.0%	21 -100.0%	8 -100.0%	21 -100.0%

The professional category above includes engineers, teachers, and medical technicians.

5. Do you think it is important for your children to be able to speak Korean? Why? Why not?

The parents of 5 (62.5%) monolingual students thought it was important for them to be able to speak Korean, and all of them mentioned "identity" as the main reason for the importance. The parents of 3 (37.5%) monolingual students said that it was not important to maintain the Korean language unless the children were interested in doing so. In other words, these parents thought that the decision was entirely up to the children.

All the parents of 22 (100.0%) bilingual students said that it was important for their children to be able to speak Korean, and the reasons were as follows (multiple responses):

Identity	16 (72.7%)
Better career opportunities	4 (18.2%)
Wider perspectives	2 (9.1%)
Necessity	1 (4.5%)
Better cognitive development	1 (4.5%)

The next question asked was:

If your answer is "Important," what efforts have you made to maintain or improve their Korean? (Multiple responses)

Five parents of the monolingual, and 22 parents of the bilingual students answered this question.

TABLE X
PARENTAL EFFORTS FOR BILINGUALISM

	Monolingual	Bilingual
Speak Korean to the subjects	0 - 0.0%	22 - 100.0%
Read Korean books to them	0 - 0.0%	10 - 45.5%
Subscribe to Korean newspaper	1 - 12.5%	14 - 63.6%
Korean language school	3 - 37.5%	7 - 31.8%
Social activities	1 - 12.5%	0 - 0.0%
Tutor	0 - 0.0%	2 - 9.1%

Although the interviews suggested that 30.4% of the parents of the monolingual students spoke Korean to their children, none of the parents of the monolingual students here was making a conscious effort to use the Korean language with their children. All 22 (100%) parental pairs of the bilingual students implied that they were making it a point to speak to their children in Korean. Ten sets of the parents (45.5%) also mentioned that they had regularly read Korean books to their children while this particular activity was nonexistent among the parents of monolingual students.

6. In addition to regular school, what activities do you think are important for your children?

TABLE XI
IMPORTANT EXTRACURRICULAR ACTIVITIES ACCORDING TO PARENTS

	Monolingual	Bilingual
Sports	6 - 75.0%	10 - 45.5%
Music	1 - 12.5%	10 - 45.5%
Church	2 - 25.0%	8 - 36.4%
Community service	2 - 25.0%	5 - 22.7%
Ethnic activities	0 - 0.0%	4 - 18.2%
Academic clubs	0 - 0.0%	3 - 13.6%
Paid jobs	1 - 12.5%	0 - 0.0%
Hobbies	1 - 12.5%	0 - 0.0%

The parents gave multiple responses. Among the parents of the eight monolingual students, "Sports" was the most popular category (6 - 75%). While "Sports" was also important among the parents of the 22 bilingual students, they thought "Music" was equally important followed by church activities. The music category included private lessons in voice, piano, violin, and other musical instruments in addition to participating in an orchestra or a band. The ethnic category consists of only Tae Kwon Do, a Korean style martial art, which can be included in sports. The extra curricular activities the parents suggested were consistent with the actual activities the subjects had been participating in.

PART 3. ANALYSES OF THE STANDARDIZED TEST SCORES

The purpose of analyzing standardized test scores was to determine whether bilingualism would accelerate or hinder the cognitive as well as academic development of the Korean-American students. It was also part of this research to observe if there were any differences in developmental patterns between monolingual and bilingual students.

Both the monolingual and bilingual students were selected among the Korean-American population in an Oregon school district as they all seemed to share very similar family backgrounds, which were discussed in detail earlier in this chapter.

The standardized test scores at grades 3, 5, 7, and 9 were collected in an attempt to discover any particular tendencies of the Korean-American students. Four types of scores, Composite, Reading, Math, and CogAT, were collected at each grade level. The composite score shows how a particular student was performing academically in that grade while CogAT reveals the student's cognitive abilities. The reading score is directly related to the English skills while the Math score evaluates non-verbal skills such as computation, spatial relations, and problem solving skills as well as some language skills.

TABLE XII shows mean scores of 11 monolingual students both in the National Percentiles (%ILE) and Normal Curve Equivalent (NCE). Please see appendix for the relationship

between the two measurement systems. It was necessary to convert the percentile scores into NCE in figuring mean scores of the participating students. Of the 11 subjects, five were U.S. born, four arrived in the United States before their first birthday, one at age three, and one at age six. Although the mean scores seemed very high against the national norm, it should be noted that individual scores ranged from the 28th percentile (NCE 38) to the 99th percentile (NCE 99). This Oregon school district claims that an average student in the district is performing at the 75th percentile against the national norm.

TABLE XII
MEAN TEST SCORES OF MONOLINGUAL STUDENTS

	Grade 3 %ILE NCE	Grade 5 %ILE NCE	Grade 7 %ILE NCE	Grade 9 %ILE NCE
Composite	87.0-73.9	87.5-74.7	86.0-72.9	85.5-72.5
Reading	84.0-70.9	83.5-70.4	82.5-69.4	80.5-68.5
Math	86.5-73.4	86.5-73.6	86.5-73.6	86.5-73.3
CogAT	83.5-70.5	85.5-72.5	85.5-72.7	84.5-71.5

%ILE = Percentile

NCE= Normal Curve Equivalent

In an attempt to observe the mean scores of the bilingual counterparts, 16 bilingual students who were either U.S. born or who immigrated to the United States by age 6 were selected. The 16 students should not have any verbal

deficits which could influence the outcome of this score analysis. All of them were native fluent in English by the time SBS and CogAT were administered at grade 3.

TABLE XIII displays mean scores of the 16 bilingual students. Of the 16 subjects, 10 were U.S. born, four arrived in the United States between the ages of 2 and 4, and two subjects at age six. The scores ranged from the 8th percentile (NCE 20) to the 99th percentile (NCE 99).

TABLE XIII
MEAN TEST SCORES OF BILINGUAL STUDENTS (AGE 0 - 6)

	Grade 3 %ILE NCE	Grade 5 %ILE NCE	Grade 7 %ILE NCE	Grade 9 %ILE NCE
Composite	77.0-66.3	86.0-72.7	84.0-71.1	87.0-73.8
Reading	65.0-58.6	76.0-65.3	72.0-62.1	77.5-66.4
Math	76.5-65.7	86.0-72.8	85.5-72.7	88.5-75.5
CogAT	76.0-64.8	85.5-72.6	87.5-74.7	87.0-73.9

The test scores of bilingual subjects were also grouped together according to the four categories mentioned earlier: (1) U. S. born, (2) Immigrants who arrived in the United States between ages 0 -4, (3) Immigrants who arrived between ages 4 -8, and Immigrants who arrived between ages 8 - 12.

TABLE XIV represents 10 U. S. born Korean-American bilingual students whose scores ranged from the 8th percentile (NCE 20) to the 99th percentile (NCE 99).

TABLE XIV
MEAN TEST SCORES OF U.S. BORN BILINGUAL STUDENTS

	Grade 3 % NCE	Grade 5 % NCE	Grade 7 % NCE	Grade 9 % NCE
Composite	80.0-67.9	86.5-73.3	85.5-72.6	87.5-74.3
Reading	72.0-62.4	79.5-67.5	77.0-65.7	81.0-68.8
Math	74.0-64.2	85.5-72.5	87.0-74.0	88.5-75.3
CogAT	77.0-66.2	85.0-71.8	89.0-75.9	88.5-75.3

TABLE XV displays the mean scores of four bilingual students who arrived in the United States before their fourth birthday. Two subjects immigrated at age two, and the other two students at age three. The scores ranged between the 16th percentile (NCE 29) and the 99th percentile (NCE 99).

TABLE XV
MEAN TEST SCORES OF BILINGUAL IMMIGRANTS (AGES 0 - 4)

	Grade 3 %ILE NCE	Grade 5 %ILE NCE	Grade 7 %ILE NCE	Grade 9 %ILE NCE
Composite	79.0-66.8	87.5-74.5	82.5-69.5	87.0-74.0
Reading	60.0-55.8	74.0-63.8	63.0-57.0	74.0-64.0
Math	79.5-67.3	85.5-72.5	80.5-68.3	87.5-74.3
CogAT	79.5-67.5	91.0-77.8	87.5-74.5	91.5-79.0

TABLE XVI shows the mean test scores of the six bilingual students who immigrated to the United States

between ages of four and eight. Two students who arrived at age 6 had approximately two years of formal education in English both in an ESL setting and a regular classroom setting before taking the standardized tests in third grade while three bilinguals who were seven at the time of immigration had only one to one and a half years of instruction in English prior to taking the tests.

The sixth student, who did not move to the United States until almost age 8, had studied English for two years in an informal setting prior to arriving in the United States. This student received approximately six months of English instruction in a regular classroom in English before taking the standardized tests in third grade. The scores for this group of students ranged from the 36th percentile (NCE 43) to the 99th percentile (NCE 99).

TABLE XVI
MEAN TEST SCORES OF BILINGUAL IMMIGRANTS (AGES 4 - 8)

	Grade 3 %ILE NCE	Grade 5 %ILE NCE	Grade 7 %ILE NCE	Grade 9 %ILE NCE
Composite	63.0-57.2	77.0-66.0	86.0-72.8	82.5-69.5
Reading	41.5-45.6	62.0-56.7	73.5-63.5	70.5-61.5
Math	87.5-74.4	89.0-75.8	92.0-79.5	87.0-74.0
CogAT	61.0-56.0	73.0-63.0	76.0-65.0	76.0-65.0

The analyses of the test scores above led me to believe that it would be irrelevant for the purpose of this research to analyze the test scores of the bilingual students who arrived in the United States after 8 years of age as a group. The Reading scores in TABLE XVI show a large gain from grade 3 to grade 5 indicating some influence of English as a Second Language (ESL). The discrepancy between Mathematics and other skills area scores at grade 3 also implies that the children's English language skills are not fully developed at this age. As the standardized tests for this research were given in English, the immigrants who arrived in the United States at an older age would naturally display verbal deficits in their English test scores.

Among the seven Korean-American bilinguals who moved to the United States after age 8, two students immigrated to the United States at age 8, two at age 10, one at age 11, and two at almost age 12. None of these students had prior education in English, and they were enrolled in the ESL program within the Oregon school district upon arrival.

Irregularities in test scores appeared for these students. For example, one student who arrived in the United States at age 11 exhibits the standardized test scores as shown in TABLE XVII. The test scores for grades 3 and 5 were not available as this individual did not arrive in the United States until age 11.

TABLE XVII
TEST SCORES OF BILINGUAL IMMIGRANT (ARRIVAL AGE 11)

	Grade 3 %ILE NCE	Grade 5 %ILE NCE	Grade 7 %ILE NCE	Grade 9 %ILE NCE
Composite	N/A	N/A	29 - 38	87 - 74
Reading	N/A	N/A	6 - 17	32 - 40
Math	N/A	N/A	76 - 65	99 - 99
CogAT	N/A	N/A	11 - 24	36 - 43

The scores for the other students in this category show similar inconsistencies. For example, TABLES XII through XVI display correlation between the Composite and CogAT scores while there is no correlation between these two categories of scores in TABLE XVII.

In Chapter 5, research questions and hypotheses will be addressed based on the findings of the data discussed in this chapter.

CHAPTER V

CONCLUSIONS

The purpose of this research was, first of all, to examine whether bilingualism would benefit or hinder the cognitive development of Korean-American students; and secondly, it was to examine some variables which might influence the developmental patterns of cognitive abilities as well as academic achievements of these students.

Both the telephone interviews and the questionnaires indicated that the participants who were first or second generation Korean-Americans felt a strong commitment to attaining success on America's terms while maintaining their ethnic identity. The subjects of this study were found to be engaging in similar activities to those of any American teenagers except that the bilingual students were using the Korean language in addition to English in their everyday life.

The standardized tests revealed that the mean scores for all the subjects are at a very high level (85 %ILE) against the national norm (50 %ILE) in both academic achievement and cognitive abilities. However, the monolingual and bilingual students displayed differing tendencies in their developmental patterns. While the monolingual students

exhibited fairly steady mean scores (87 %ILE to 85.5 %ILE for the SBS composite, and 83.5 %ILE to 84.5 %ILE for CogAt) from third through ninth grades, the bilingual students displayed a significant improvement in both academic and cognitive scores through the same grade levels (77 %ILE to 87 %ILE for the SBS composite scores, and from 76 %ILE to 87 %ILE for the CogAT scores.)

DISCUSSION

This study was intended to answer seven research questions, and to address fourteen research hypotheses related to monolingual and bilingual Korean-American students. Conclusions will be drawn based on the findings discussed in the previous chapter.

Research Questions

1. Are the Korean-American students in an Oregon school district U. S. citizens? If immigrants, when did they move to the United States?

TABLE I in the previous chapter show that 23 (33.4%) of the 69 participating students were born in the United States. The percentage of the U. S. born students would be even lower (24.2%) if 26 recent arrivals contacted by telephone were included in the statistics. The remaining students (75.8%) were immigrants.

It was discovered that this large percentage of Korean-American immigrants had been transplanted to the Oregon school district during the past 15 years, and more Korean-Americans are continuing to make the area their new home. This result was consistent with the original assumption that most Korean-Americans were recent immigrants.

TABLE VII indicates that all the immigrant parents except three mothers, who said "marriage" was the main reason for immigration, moved to the United States looking for a better life for themselves and their children. Better jobs, better education, and freedom were the three main reasons for their immigration. These reasons are little different from those of other preceding immigrant groups. Interviews and questionnaire responses show that the Korean-American people are as committed as any other group of immigrants in attaining their goals in the cultural context of the United States.

The number of children in a Korean-American family, or the daily activities the students engaged in as shown in TABLES IV through VI did not indicate anything particularly different about the Korean-American families from a mainstream American family.

One unique feature of the Korean-American families was that those who attend church services regularly all go to a Korean church. All the bilingual students (100.0%) use the Korean language also in their everyday life.

2. What percentage of the Korean-American high school students are bilingual in Korean and English?

Of the 69 subjects, 46 (66.7%) are bilinguals. If the extra 26 students who arrived in the United States after their 12th birthday were included in the statistics, 75.8% of the Korean-American students would be bilingual.

However, for the 26 recent arrivals, being bilingual is not a choice they have made, but rather this is a condition they have had no control over under the circumstances. Most immigrant students had had very little or no education in English prior to coming to the United States. Therefore, their family lives were carried on in Korean at home while they attended English speaking schools.

3. What motivates the Korean-American students to become either bilingual or monolingual?

Overwhelmingly, 45 (97.8%) of the bilingual and 11 (47.8%) of the monolingual students thought it was important for them to be able to speak the Korean language. Among the students who answered "important" to maintaining the Korean language, 90.9% of the monolingual and 82.2% of the bilingual students said "identity" was the main motivational force for either becoming bilingual or maintaining bilingualism. These students seemed comfortable with the notion of bilingualism and biculturalism. They felt they were committed to pursue their individual success on

America's terms while preserving their ethnic as well as cultural heritage.

It is possible that the results of this survey might have been entirely different, had the question been asked 20 years ago. There seems to be more tolerance and acceptance of the diversity in languages and cultures in the United States in recent years. Perhaps, bilingual individuals are no longer threatened to express their biculturalism publicly although such an action might have been seen as an unpatriotic gesture by the mainstream American population in the past.

This school district has incorporated culture studies in its social studies program. Each grade has a key country or key region in the world to study throughout an entire school year. Korea is one country the children study in grade school, and it is very likely that not only Korean-American students feel welcome but also they are given an opportunity to be resource students for the culture studies.

The majority of the bilingual students also mentioned a desire to visit Korea someday. While many earlier immigrants to the United States may have thought that there was no turning back, the Korean-American subjects for this study seem to feel strong emotional ties to their native country. The students thought it would be important to be able to communicate in Korean if such visits occurred.

All (100%) of the 12 monolingual students who did not think it was important to be able to speak Korean said there was no need for the Korean language in their everyday life. It should be noted that the Korean students and their families who participated in this study are not living in a Korean town as in Southern California where the Korean population has surpassed 200,000. As the 12 monolingual students mentioned, it was possible to conduct everyday life without ever speaking Korean in the school district. For some Korean-American students, it was necessary to use the language as their family members were unable to communicate well in English. However, for the 12 monolingual students mentioned here, their home communication was conducted in English.

Many outsiders tend to see an Asian group living in one section of a city with their own language, customs and rules, as seen in Chinatown in San Francisco, or Little Tokyo in Los Angeles. In the Oregon school district, however, Korean-American families interviewed for this study are dispersed in the area, and are very much integrated into the social mainstream.

It was also discovered that the parents of the bilingual students in general had a stronger desire for their children to be bilingual than did the parents of the monolingual students. For example, three immigrant parents of the monolingual students stated that whether to become bilingual

or not was entirely up to their children. This statement reveals that these three sets of parents were thinking more in terms of individuality rather than collectivity: a definite American tendency.

It should also be noted that 5 (62.5%) fathers and 4 (50.0%) mothers of the monolingual students were U. S. born. The immigrant parents of the monolingual students arrived in the United States at a younger age than did the parents of the bilingual students. As seen in Figure 1, the median age for the immigrant fathers was 25, and 22 for the immigrant mothers of the monolingual students while it was 34 and 30 respectively among the parents of the bilingual students. All the parents (100%) of the bilingual students were immigrants.

Seven (87.5%) fathers and seven (87.5%) mothers of the monolingual students were also educated in the United States while only two (9.5%) fathers and one (4.8%) mother of the bilingual students received college education in the United States.

The parents who were either U. S. born or educated in a mainstream U. S. institution might have developed more individualistic attitudes than those who had received formal education in Korea and immigrated to the United States in their thirties. The parental attitudes seem to have played a major role in their childrens' attitudes or motivations toward bilingualism.

It was also learned that the parents of 5 (62.5%) monolingual students thought it was important for their children to be able to speak Korean because of their "identity," but were not able to keep up the language at home. As shown in TABLE III, seven of the 23 monolingual students interviewed by telephone stated that their parents talked to them in Korean even though the students were not able to carry on conversation in the language.

It is possible that the Korean-American children are largely complying with their parents' desires at this age as seen in many Asian cultures which respect elders' opinions. Only two of the 46 bilingual students belonged to single parent homes. One monolingual and three bilingual students lived with step parents. This indicates that the Korean-American marriages in this school district has a very low divorce rate (8.6%). The strength of family ties may also have influenced the children's attitudes toward bilingualism.

In summary, it can be said that it is unlikely for a Korean-American child in this particular school district to become naturally bilingual. In addition to motivational factors, it seems necessary to make special efforts in maintaining the Korean language in the cultural context of the school district which consists of largely European descendants. It seems likely that the parents as well as the students need to be committed to either maintaining or improving the Korean language skills.

4. Which language is spoken in a Korean-American family?

This question was asked to determine how much exposure to the Korean language the subjects were receiving at home. As shown in TABLE III, Korean was definitely the dominant home language for the bilingual students. All 46 bilingual students (100%) were actually using Korean in their everyday life while only 7 (30.4%) monolingual students heard the language spoken to them part of the time.

The dominant language among siblings was English. If "N/A" (not applicable as only child) category was included, 100% of the monolingual students and 69.8% of the bilingual students used English exclusively among siblings. Although TABLE II shows that all 46 bilinguals (100%) learn Korean at home, TABLE III indicates that nearly 70% of the bilingual students would not use Korean language every day if it were not for the communication with their parents.

When the parents were asked about the efforts for maintaining the Korean language, all the parents (100%) of the bilingual students answered that they were making a conscious effort to speak to their children in Korean while none of the parents (0%) of the monolingual students used Korean with their children (See TABLE X). The result of the parental questionnaire was consistent with the telephone interviews conducted with the students.

5. What efforts are made by the Korean-American students and their families to maintain bilingualism?

According to TABLE II, 100% of the bilingual students are learning the Korean language at home as mentioned earlier. In addition, the bilingual students and their families seem to be making extra efforts in maintaining or improving the language. Some of the popular methods of learning the language include Korean language school, church or other social settings, tutoring, and reading. For example, six (54.5%) U. S. born bilinguals went to Korean language school once a week while two more (18.2%) had tutoring sessions.

TABLE X indicates that the parents of the bilingual students are far more committed than the parents of the monolingual students in teaching the Korean language to their children. For example, while 22 (100%) parents of the bilingual students regularly spoke Korean to their children, none (0%) of the parents of the monolingual students did so. Ten (45.5%) parents of the bilingual students also read Korean books to their children, but this activity was non-existent among the parents of the monolingual students.

Fourteen (63.6%) parents of the bilingual students were also subscribing to Korean newspapers, and seven (31.8%) parents were sending their children to Korean language school. Among the monolingual students, only one parent (12.5%) was subscribing to a Korean newspaper, three (37.5%)

have tried sending their children to Korean school for one year, and one (12.5%) was trying to teach the language in social settings.

6. What is the parental educational background of a Korean-American student?

In general, the Korean-American parents in the Oregon school district were highly educated. An average father of the monolingual students had completed 16.3 years of formal education while an average mother of monolingual students had completed 15 years of education. An average father of bilingual students had completed 15 years of education while an average mother of bilingual students had completed 13.5 years of education.

As shown in TABLE VIII, 12 fathers (57.1%) of the bilingual students had 4-year-college or higher degrees while 5 mothers (23.7%) of the same students also had earned bachelor's degrees. Five fathers (62.5%) and five mothers (62.5%) of the monolingual students held 4-year-college or higher degrees also. The parental interest in education may be a major factor in the high academic achievements among their offspring.

7. What are the parents' occupations of the Korean-American students?

As seen in TABLE IX, Self-employment and professionals were strong tendencies among Korean-American parents. All

the fathers (100%) of the monolingual students, and 19 (90.5%) fathers of the bilingual students belonged to these two categories.

A recent survey conducted on 750 Korean-Americans in the Los Angeles area by Los Angeles Times revealed that more than one-third of the people said their total family income was more than \$40,000 a year. The Newspaper surveyor concluded that the Korean-Americans who valued education, discipline and diligence were doing financially very well by American standards.

The questionnaire for this research did not ask the Korean-American parents to reveal their family income; however, judging from their occupations the Korean-American families in the Oregon school district could be earning as much as the families in the Los Angeles area.

Research Hypotheses

The hypotheses formulated at the beginning of this research were supported by the standardized test scores for the most part. The bilingual students exhibited less developed English skills at the lower grades than did the monolingual students: however, the bilinguals' test scores at grade 9 in all areas except the reading skills area were better than those of the monolingual students. The details of findings are as follows:

1.A. The bilingual Korean-American individuals will be verbally less developed than the monolingual English speaking Korean-Americans (hereafter, referred to as "their monolingual counterparts") at grade 3, as measured by the reading portion of the Survey of Basic Skills (SBS).

All the monolingual students whose test scores were available were either U. S. born or immigrants who were younger than age 6 at the time of immigration. Their mean "Reading" score at grade 3 was 84.0 %ILE (NCE 70.9) while the mean score for their bilingual counterparts was 65.0 %ILE (58.6%). The difference was 19 percentile points. Even the mean "Reading" score for the U. S. born bilinguals--72.0 %ile (NCE 62.4)--lagged behind that of the monolinguals by 12 percentile points.

Although this hypothesis correctly predicted the results, such a large gap between the monolinguals and bilinguals had not been anticipated. Particularly, there was no reason to believe that the U. S. born bilinguals had been deprived of exposure to English prior to entering school in the mainstream educational system.

As was discovered earlier, the Korean-American families were dispersed throughout this Oregon school district. It would have been impossible to carry on everyday life without some exposure to English. The parents of the Korean-American students wanted their offspring's academic success in a

mainstream school as seen in their reasons for immigration. Therefore, it is unlikely that they held their children back from English language influence.

1.B. The bilingual Korean-American individuals will be mathematically as developed as their monolingual counterparts at grade 3, as measured by the mathematical portion of the SBS.

According to the data gathered, this was the only item wrongly predicted by the hypotheses. The Mathematics test scores did not support this prediction, but rather the monolingual students' mean Mathematics score was 10 percentile points higher (86.5 %ILE vs. 76.5 %ILE) than that of the bilingual students.

It is possible that this discrepancy between the monolinguals and bilinguals might have been caused by the relative lack of reading comprehension skills at this age by the bilingual students rather than actual Mathematical or non-verbal skills. However, the Mathematics portion of the SBS at grade 3 consists of only computation skills such as addition, subtraction, multiplication, and division.

It seems unlikely that the language skills played a direct role in the SBS Mathematics scores at this stage as there were no story problems which would require more developed English comprehension skills. In regular classroom, however, the bilingual students might have

experienced a relative disadvantage in understanding Math concepts due to their less developed English language skills. More in-depth study of specific skill areas might reveal insights into the discrepancy in test scores between the monolinguals and bilinguals at this age.

It should be noted that the bilingual students were by no means performing poorly in school. The mean "Reading" score at the 65th percentile and "Math" score at the 76.5th percentile were still far above the national norm.

1.c. The bilingual Korean-American individuals will be academically less developed than their monolingual counterparts at grade 3, as measured by the composite portion of the SBS.

At grade 3, an average monolingual student was scoring at the 84th percentile in the English reading skills while a bilingual counterpart was scoring in the 65th percentile in the same skills area. In "Math" also, an average monolingual student was performing better than an average bilingual student (86.5 %ILE vs. 76.5 %ILE). Consequently, the bilingual students were academically less developed than the monolingual students as measured by the composite portion of the SBS (87.0 %ILE vs. 77.0 %ILE) at this age.

1.D. The bilingual Korean-American individuals will be cognitively less developed than their monolingual

counterparts at grade 3, as measured by the Cognitive Abilities Test (CogAT).

Perhaps, due to the relatively less developed English skills of the bilingual students, they are also less developed both academically and cognitively than the monolinguals at this age.

The mean CogAT score for the monolinguals was 83.5 %ILE (NCE 70.5) while the mean score for their bilingual counterparts was 76.0 %ILE (NCE 64.8). Academic and cognitive scores are closely correlated according to the standardized tests used for this study. The monolinguals' mean academic (Composite) score was 87.0 %ILE (NCE 73.9), slightly higher than their CogAT mean of 83.5 %ILE (NCE 70.5). For the bilinguals, the mean academic score was 77.0 %ILE (NCE 66.3) while their CogAT was a very close 76.0 %ILE (NCE 64.8).

2.A. The bilingual Korean-American individuals will be verbally less developed than their monolingual counterparts at grade 5, as measured by the reading portion of the SBS.

This hypothesis also correctly predicted the results of the test score analysis. The mean "Reading" score for the monolingual students was 83.5 %ILE (NCE 70.4) while the mean score for their bilingual counterparts was 76.0 %ILE (NCE 65.3).

By comparison, the bilinguals made a greater stride between grades 3 and 5. For the monolinguals, the mean "Reading" score changed from 84.0 %ILE at grade 3 to 83.5 %ILE at grade 5. When the margin of error (4%) is taken into consideration, it can be said that their "Reading" score remained the same. The bilingual counterparts, on the other hand, had the mean "Reading" score at grade 3 of 65.0 %ILE which jumped to 76.0 %ILE at grade 5.

This tendency of much improvement in "Reading" scores from grades 3 to 5 was observed in every category of the bilinguals. For example, the "Reading" scores improved from 72 %ILE at grade 3 to 79.5 %ILE at grade 5 for the U. S. born bilingual students. The bilingual immigrants who moved to the United States before their fourth birthday scored in the 60.0 %ILE at grade 3 and 74.0 %ILE at grade 5, showing the improvement of 14 percentile points. For the bilinguals who immigrated between the ages of 4 and 8, the scores went from 41.5 %ILE to 62.0 %ILE, showing the improvement of 21.5 percentile points.

A great improvement in "Reading" scores among the bilingual immigrants had been anticipated as the immigrants who had had no prior exposure to English would make rapid progress in English (as a second language) skills as they advance in grades. However, the improvement made by the U. S. born bilinguals seems significant considering the fact

that the monolinguals' mean reading score had remained the same from grades 3 to 5.

2.B The bilingual Korean-American individuals will be mathematically as developed as their monolingual counterparts at grade 5, as measured by the mathematical portion of the SBS.

This hypothesis also correctly predicted the results of the data analysis. The mean "Math" score for the monolingual students at grade 5 was 86.5 %ILE (NCE 73.4), and the mean score for their bilingual counterparts was 86.0 %ILE (NCE 72.8). Considering the margin of error, it can be safely concluded that the two groups of students were performing at the same level.

It needs to be pointed out, however, that the bilinguals' mean score improved from 76.5 %ILE at grade 3 to 86.0 %ILE at grade 5 while the monolinguals' mean score kept steady at 86.5 %ILE at both grades. The tendency of a large gain was observed only among the U. S. born and the younger immigrant bilinguals while the mean "Math" score for the immigrant bilinguals who arrived in the United States between the ages of 4 and 8 remained steady at around the 88th percentile.

TABLE XVIII
PERCENTILE POINTS GAINED IN MATH BY BILINGUALS

	Grade 3 %ile	Grade 5 %ile	Gain %ile
U. S. born bilinguals	74.0	85.5	11.5
Immigrant (Age 0 - 4)	79.5	85.5	6.0
Immigrant (Age 4 - 8)	87.5	89.0	1.5

There are no apparent explanations for the phenomena observed here. It is unknown why the U. S. born bilinguals improved very much in Mathematics as well as Reading scores from grades 3 to 5. However, general academic achievement expressed by the composite scores indicates that they were performing academically as well as the monolinguals by the time they were in fifth grade (Monolingual 87.5 %ILE vs. Bilingual 86 %ILE). The cognitive abilities measured by the CogAt tests also implied that they were caught up with the monolinguals in fifth grade (Monolingual 85.5 %ILE vs. Bilingual 85.5 %ILE).

Composite scores for the SBS include Language Arts as well as Reading and Mathematics. Language Arts include such specific skill areas as mechanics, usage, and spelling. As the bilinguals showed the composite score similar to their monolingual counterparts at grade 5 in spite of the fact they still lagged behind the monolinguals in "Reading" by 7.5 percentile points (76.0 %ILE vs. 83.5 %ILE), it is likely

that the bilinguals scored better than the monolinguals in Language Arts portion of the SBS.

Cummins (1979), Hakuta (1986), and other scholars have supported the claim that bilingual individuals have higher abilities in observing and analyzing various aspects of language. It is possible that the bilinguals are better analysts not only of two similar languages, but also of two structurally unrelated languages.

3.A. The bilingual Korean-American individuals will be verbally less developed than their monolingual counterparts at grade 7, as measured by the reading portion of the SBS.

At grade 7, the monolinguals' mean "Reading" score was 82.5 %ILE (NCE 69.4) while their bilingual counterparts were achieving at 72.0 %ILE (NCE 62.1). The monolinguals' mean score dropped one percentile point from Grade 5, and 1.5 percentile points from Grade 3.

Although the bilinguals' mean score indicated four percentile decrease from grade 5 (from 76.0 %ILE to 72.0 %ILE), this might have been caused by the margin of error and not by a regression in actual English skills. TABLE XIV displays that an average U. S. born bilingual was scoring 77.0 %ILE (NCE 65.7) at grade 7 compared to 79.5 %ILE (NCE 67.5) at grade 5. All Korean-American students except the immigrant bilinguals who arrived in the

United States between the ages 4 and 8, exhibited a lower score at grade 7 than grade 5. It is difficult to determine whether this finding is a general tendency or mere coincidence.

The bilingual students who arrived in the United States between the ages of 4 and 8 continued to show an improvement in the mean "Reading" score, as had been anticipated. This group of students scored 73.5 %ILE (NCE 63.5) much closer to the U. S. born bilinguals' mean score of 77.0 %ILE at grade 7. They also improved from 62.0 %ILE at grade 5.

3.B. The bilingual Korean-American individuals will be mathematically as developed as their monolingual counterparts at grade 7, as measured by the mathematical portion of the SBS.

The mean "Math" score for the monolinguals was 85.5 %ILE (NCE 72.7) compared to the mean score of 87.0 %ILE (NCE 74.0) for their bilingual counterparts. The bilinguals at this grade were mathematically as developed as or possibly more developed than the monolinguals. When the margin of error is taken into account, it is difficult to claim that the bilinguals were mathematically more developed than the monolinguals. Statistical analysis from a larger sample size would be necessary to confirm such a claim.

4.A. The bilingual Korean-American individuals will be verbally as developed as their monolingual counterparts

at grade 9, as measured by the reading portion of the SBS.

The monolingual students exhibited the mean "Reading" score of 80.5 %ILE (NCE 68.5) at grade 9. Although the mean "Reading" score for the bilingual counterparts still lagged behind by 3 percentile points, the conclusion that the bilinguals were verbally as developed as the monolinguals could be drawn based on the mean "Reading" score, 81.0 %ILE (NCE 68.8), of the 10 U. S. born bilinguals.

4.B. The bilingual Korean-American individuals will be mathematically as developed as their monolingual counterparts at grade 9, as measured by the mathematical portion of the SBS.

The bilingual students showed a slightly higher "Math" mean score than their monolingual counterparts at grade 9 (Bilingual 88.5 %ILE vs. Monolingual 86.5 %ILE). It is clear that the bilingual Korean-American students were performing as well as or, perhaps, better than their monolingual counterparts. On the contrary to the steady "Math" score (86.5 %ILE) maintained by the monolinguals from grades 3 to 9, the bilinguals made a great stride between grades 3 and 5.

It is possible that the bilinguals continue to improve the Mathematics performance beyond 5th grade. A study on long term effects of bilingualism on school performance may

provide more insight into whether or not the bilinguals eventually outperform the monolinguals.

4.C. The bilingual Korean-American individuals will be academically as developed as their monolingual counterparts at grade 9, as measured by the composite portion of the SBS.

The bilingual students showed a higher score than did their monolingual counterparts in the composite portion of the SBS at grade 9 (Bilingual 87.0 %ILE vs. Monolingual 85.5 %ILE). Again, due to the margin of error and the sample size, it would be premature to generalize that the bilinguals outperform the monolinguals at grade 9. Further investigation is necessary to confirm such a claim.

4.D. The bilingual Korean-American individuals will be cognitively as developed as their monolingual counterparts at grade 9, as measured by the CogAT.

It was discovered earlier that the bilingual students caught up with their monolingual counterparts by the time they were in 5th grade. The CogAT scores at grades 7 and 9 confirmed they were indeed as developed as their monolingual counterparts, and that the bilinguals' CogAT scores at grade 5 did not occur by accident. It can be safely said that the bilingual Korean-American individuals in this school district

were cognitively as developed as their monolingual counterparts at grade 9, as measured by the CogAT.

5.A. There will be a greater increase in the cognitive development from grade 3 to grade 9 for the bilingual Korean-American individuals compared with their monolingual counterparts, as measured by the CogAT.

This hypothesis also correctly predicted the tendencies of the Korean-American subjects. The mean CogAT scores ranged from 83.5 %ILE to 85.5 %ILE for the monolingual students, showing a range of 2 percentile points. The mean CogAT scores of 83.5 %ILE at grade 3 and of 84.5 %ILE at grade 9 led me to believe that the monolingual students' cognitive abilities remained the same from the third through ninth grade.

On the other hand, their bilingual counterparts exhibited a range from 76.0 %ILE at grade 3 to 87.0 %ILE at grade 9, an increase of 11 percentile points. The greatest increase occurred between the third and fifth grade, jumping from 76.0 %ILE to 85.5 %ILE. (See Figure 2.)

By seventh grade the bilinguals' mean CogAT score exceeded that of the monolinguals by a few percentile points (Monolingual 85.5 %ILE vs. Bilingual 87.5 %ILE) although it can only be said that the bilinguals caught up with the monolinguals at this age. Further investigation is necessary before generalizations can be made about such results. More

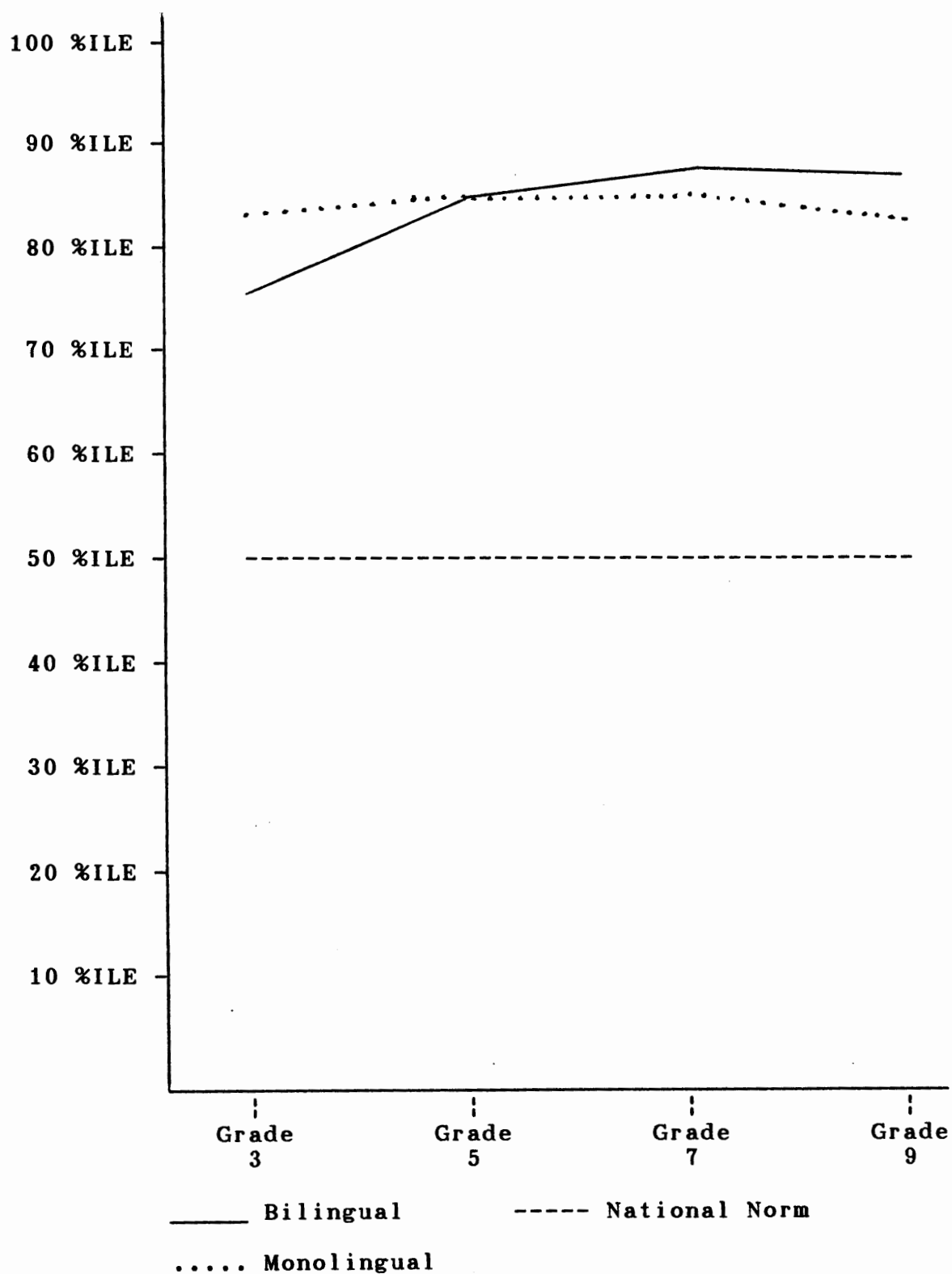


Figure 2. Cognitive Development of Korean-American Students (Mean CogAT Scores).

statistical studies are needed to determine whether the advantage for the bilinguals is valid.

Peal and Lambert (1962) claimed that the 10-year-old English-French bilinguals were more cognitively developed than the monolinguals. Their suggestion of the cognitive advantage for the bilingual children at age 10 was not confirmed by this study. Although it is not conclusive, more studies might find the cognitive advantage for the Asian-American bilinguals at an older age.

6. There will be a greater increase in the academic development from grade 3 to grade 9 for the bilingual Korean-American individuals compared with their monolingual counterparts, as measured by the composite portion of the SBS.

This hypothesis was confirmed by analyzing the composite test scores. The mean "Composite" scores for the monolingual students ranged from 85.5 %ILE at grade 9 to 87.5 %ILE at grade 5. The mean scores of 87.0 %ILE at grade 3 and of 85.5 %ILE at grade 9 seem to indicate that the students' academic achievement levels stayed the same.

Their bilingual counterparts showed a greater gain in the composite scores as they demonstrated in CogAT scores. The mean "composite" scores ranged from 77.0 %ILE at grade 3 to 87.0 %ILE at grade 9. The mean "Composite" score of 87.0 %ILE (NCE 73.8) at grade 9 was consistent with the mean

"CogAT" score of 87.0 %ILE (NCE 73.9). As was seen in the cognitive developmental patterns of the Korean-American bilinguals, the mean "composite" scores also had the greatest gain between grade 3 and 5 from 77.0 %ILE to 86.0 %ILE. (See Figure 3.)

The standardized test scores have shown certain tendencies about the Korean-American students in this school district. They are:

1. The Korean-American students in this school district are academically performing far better than the national norm. They are also scoring higher in standardized tests than an average student in this Oregon school district who is performing at the 75th percentile against the national norm.
2. For both the monolinguals and bilinguals, Mathematics test scores were higher than Reading test scores at every grade level. The smallest difference was 2.5 percentile points (Reading 84 %ILE vs. Math 86.5 %ILE) for the monolingual third graders while the largest difference (11.5 percentile points) was seen in the bilingual third graders (Reading 65 %ILE vs. Math 76.5 %ILE). This result was also consistent with the results of other standardized tests such as SAT, GRE, and MCAT (cited in Hsia, 1981).
3. The bilingual Korean-Americans made greater progress both cognitively and academically from third to ninth

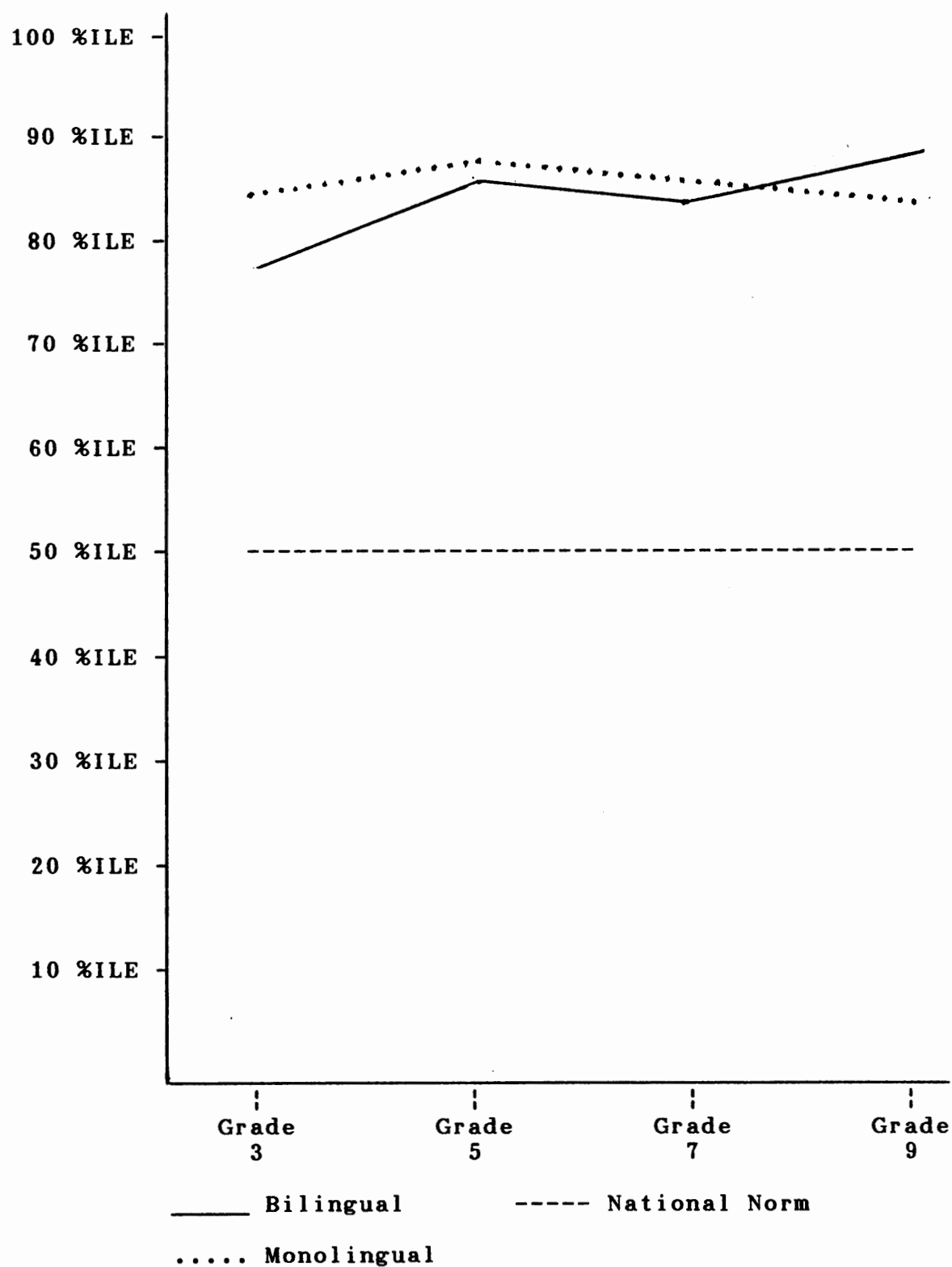


Figure 3. Academic Development of Korean-American Students (Mean SBS Composite Scores).

grade than their monolingual counterparts. Both groups were performing at the same level cognitively as well as academically by the time they were fifth graders.

LIMITATIONS

The original goal of this research project was to collect test scores of at least 30 bilingual as well as 30 monolingual Korean-American students, so that statistical analyses could be conducted. While 69 students were interviewed, the final number of the subjects whose test scores became available was 38: 27 bilinguals, and 11 monolinguals. The number of the subjects precluded using some statistical tests which would show developmental correlations more clearly.

Both the strength and the limits of this study arise from the way subjects were selected, and the type of data collected. The strength of this research is that the two groups of students were well controlled. Both the monolingual and bilingual students came from the same linguistic background. They also shared similar family backgrounds except that the bilingual students were using Korean in addition to English everyday.

The limits arise from the number and type of students who participated in this study. It is possible that mostly academically advanced students have agreed to release test scores although the scores ranged from the 8th to 99th

percentile. The fact remains, however, that the test scores showed differing tendencies for the monolingual and bilingual students.

The data may provide information on the cognitive development of the subjects, but not necessarily predict in any way their future academic success in school. The results of this research should not be generalized to other Asian-American groups in the school district, or Korean-American communities in other parts of the United States.

IMPLICATIONS

The results of this research showed that the bilingual students were scholastically performing as well as or possibly better than the monolingual students at grade 9. This finding might encourage more Korean American people who display ambivalent attitudes toward bilingualism to try to maintain their ethnic language.

Although this research will not have direct implications for TESOL, it can offer opportunities for other research such as studying cognitive styles of other Asian-American groups, or other Asian-Americans in other communities in the United States, and third or fourth language acquisition by bilingual Asian-Americans. Learning about diverse cognitive styles may lead to possible development of a new teaching approach in ESL or EFL settings. This study may also inspire other

researchers to explore other linguistic issues of the Asian-American population.

RECOMMENDATIONS

In the process of reviewing literature, it was learned that there had not been much research done on the bilingualism involving an Asian and a European language. In spite of the fact that many scholars now seem to believe that separate consideration is necessary in order to claim the advantage for the bilinguals, their opinion is based on linguistic as well as cultural differences between an Asian and a European language rather than the assessment of the individuals' cognitive abilities or academic achievements.

I recommend the following questions for future research:

1. What are the long term effects of bilingualism involving English and an Asian language?
2. Why do some children become bilingual and others not?
3. How does bilingualism affect acquisition of a third or fourth language?
4. What would the cerebral dominance patterns of the bilinguals be like (right dominant / left dominant / balanced?) especially if they are English-Asian language bilinguals?
5. Do the male and female Asian-American bilinguals show different cognitive development patterns?

6. Do bilingual Asian-American children develop the proficiency of each language at the same speed if they are enrolled in bilingual schools?

SUMMARY

Interviews and written questionnaires indicated that the Korean-American families were very much integrated into the mainstream community of this school district. The families of monolingual and bilingual Korean-American students shared similar educational, and socio-economic backgrounds. They were pursuing traditional American dreams of a better life and freedom for themselves and their children while maintaining their ethnic culture.

The standardized test scores were used to answer whether bilingualism would accelerate or hinder the cognitive as well as academic development of the Korean-American individuals in an Oregon school district. Although the answer to this question is still inconclusive, it was learned that the Korean-American bilinguals in this particular school district were both cognitively and academically as developed as their monolingual counterparts by the time they were in 5th grade.

While the bilingual students continued to make steady progress academically as well as cognitively beyond 5th grade, the monolingual students' development hovered around the 85th percentile from 3rd through 9th grade. Although the mean scores of each group indicate that the bilingual

students were performing better than the monolinguals at grade 9, it would be premature to claim that the bilinguals are cognitively more developed than the monolinguals due to the margin of error as well as the limitation in the number of students participating in this research.

The Korean-American students and their parents who participated in this study indicated that their main reason for maintaining the Korean language was because of their ethnic identity. Being bilingual in Korean and English seems not only to enhance their dual identity, but as a biproduct it might also enhance their cognitive flexibility.

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APPENDIX

QUESTIONS FOR INITIAL INTERVIEWS (BY TELEPHONE):

1. When and where were you born? If you were born outside the United States, when did you move to the States?
2. How long have you lived in the Beaverton school district?
3. Do you consider yourself bilingual?
 fluent (can converse without any difficulty)
 passable (can speak some, but the vocabulary is limited)
 a little (can understand, but cannot answer in Korean)
 hardly (can understand very little)
 not at all
4. Do you read Korean? Yes or No
 If "Yes", han-gul only?
 How many "hanja" characters can you read?

 Do you write Korean? Yes or No
 If "Yes", han-gul only?
 How many "hanja" characters can you write?
5. How do you study Korean? How much time is spent on studying Korean?
 at home, tutor, Korean language school,
 other (specify);
6. Do you think it is important for you to be able to speak Korean? Why? Why not?
7. Do your parents want you to speak Korean in addition to English?
8. Which language is spoken at your home?
 Between Mother and Father _____
 Between parents and children _____
 Among children _____
9. How many children are there in your family?
 Do they all speak Korean?
10. What types of extra curricular activities are you participating in?
 Please list all activities you have participated in the past including church, sports, music lessons, volunteer work, paid jobs, or family business, etc.

Current activities:

In Jr. High years:

In Elementry School years:

QUESTIONS FOR PARENTS & GUARDIANS

1. Are you immigrants? If so, what were your reasons to immigrate to the United States? (can be more than one answer)

Father: Immigrant or U.S. born
Reasons for immigration:

Mother: Immigrant or U.S. born
Reasons for immigration:

- 2 How old were you when you immigrated to the United States?

Father: Mother:

3. What are your educational backgrounds?

Father: In Korea: Jr. High, Sr. High, 2 yr College,
BA or BS, MA or MS, PhD
In U.S. : Jr. High, Sr. High, 2 yr College,
BA or BS, MA or MS, PhD

Mother: In Korea: Jr. High, Sr. High, 2 yr College,
BA or BS, MA or MS, PhD
In U.S. : Jr. High, Sr. High, 2 yr College,
BA or BS, MA or MS, PhD

4. What are your occupations?

Father:

Mother:

5. Do you think it is important for your children to be able to speak Korean? Yes or No
Why? Why not?

If your answer is "important", what efforts have you made to maintain or improve their Korean?

Speak Korean to them?	Yes	No
Read Korean books to them?	Yes	No
Subscribe to Korean newspapers?	Yes	No
Send them to Korean Language schools?	Yes	No
Others (Please specify)		

6. In addition to regular school, what activities do you think are important for your children?

If you have any questions regarding this research, please call Kimiko King at 297-3666 or 224-0328. If you experience problems that are the result of your participation in this study, please contact the Chair of the Human Subjects Research Review Committee, Office of Grants and Contract, 345 Cramer Hall, Portland State University, (503) 725-3417.

CONSENT FORM FOR CHILD SUBJECT

I, _____, hereby agree to permit my child, _____ (Beaverton Student # _____), to serve as a subject in the research project on THE ACADEMIC DEVELOPMENT OF KOREAN-AMERICAN BILINGUALS IN AN OREGON SCHOOL DISTRICT conducted by Kimiko Okada King. I allow the Beaverton School District to release my child's Survey of Basic Skills as well as CogAt (or Educational Abilities) scores at grades 3, 5, 7, and 9 to Kimiko Okada King.

I understand that possible risks to my child associated with this study are demand on time required to be interviewed and the information revealed to Kimiko Okada King.

It has been explained to my child and me that the purpose of the study is to learn whether bilingualism would accelerate or hinder the academic development of Korean-Americans in the Beaverton School District. My child or I may not receive any direct benefit from participation in this study, but my child's participation may help to increase knowledge which may benefit others in the future.

Kimiko Okada King has offered to answer any questions my child or I may have about the study and what is expected of my child in the study. My child and I have been assured that all information I give will be kept confidential and that the identity of all subjects will remain anonymous.

I understand that my child is free to withdraw from participation in this study at any time without jeopardizing his/her relationship with Beaverton Schools or Portland State University.

I have read and understand the foregoing information and agree to permit my child to participate in this study.

Date _____ Parent Signature _____

Participant Signature _____

Please contact Kimiko Okada King at 224-0328 or 297-3666 for any questions regarding this study. If you experience problems that are the result of your participation in this study, please contact the Chair of the Human Subjects Research Review Committee, Office of Grants and Contract, 345 Cramer Hall, Portland State University, (503) 725-3417.

THE NORMAL CURVE EQUIVALENT CORRESPONDING TO EACH PERCENTILE

%ILE	NCE	%ILE	NCE	%ILE	NCE	%ILE	NCE
1	1	26	37	51	51	76	65
2	7	27	37	52	51	77	66
3	10	28	38	53	52	78	66
4	13	29	38	54	52	79	67
5	15	30	39	55	53	80	68
6	17	31	40	56	53	81	69
7	18	32	40	57	54	82	69
8	20	33	41	58	54	83	70
9	22	34	41	59	55	84	71
10	23	35	42	60	55	85	72
11	24	36	43	61	56	86	73
12	25	37	43	62	56	87	74
13	26	38	44	63	57	88	75
14	27	39	44	64	58	89	76
15	28	40	45	65	58	90	77
16	29	41	45	66	59	91	78
17	30	42	46	67	59	92	80
18	31	43	46	68	60	93	81
19	32	44	47	69	60	94	83
20	32	45	47	70	61	95	85
21	33	46	48	71	62	96	87
22	34	47	48	72	62	97	90
23	34	48	49	73	63	98	93
24	35	49	50	74	64	99	99
25	36	50	50	75	64		